ALPINE®

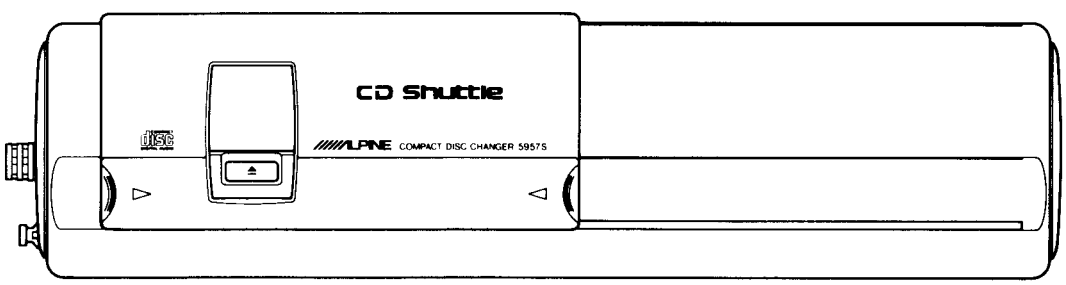
SERVICE MANUAL

Compact Disc Remote Changer

CD Shuttle

COMPACT disc DIGITAL AUDIO

- The model described in this manual is developed from Model 5957. For information that is not mentioned in this service manual, refer to the Service Manual 5957 (68P32133W02).
- For the CD deck mechanism parts (DR24A040) of this model, refer to the Service Manual • DR Series (68P30571W03).



5957S

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Spare Schematic Diagram Inserted.

Operation
Adjustment Procedures
Packing Method View
Disassembly Instructions

Refer to the Service Manual 5957 (68P32133W02).

Specifications

<CD SECTION>

System	Optical (Compact Disc System)
Quantizing Bit Number	20 Bit Linear System
Channels	2 Channels, Stereo
Distortion (997Hz)	0.02%
Frequency Response (Ref. 1kHz)	±2dB (17Hz~19.997kHz)
S/N Ratio	90dB
Channel Separation	80dB (997Hz)
	70dB (10.007kHz)
De-Emphasis (Ref. 1kHz)	-20±3dB (4kHz)
	-20±3dB (16kHz)
Currents Consumption (at PLAY)	1A

<GENERAL>

Power Supply	14V DC (10.5~16V allowable)
Output Voltage/Impedance	850±150mV/10k ohm
Semiconductors	13 IC's, 20 Transistors, 4 Diodes, 3 Zener Diodes
Dimensions (W×H×D)	279×71×178 mm
Weight	2.5kg

<COMPACT DISC>

Maximum Playback Time (at Stereo)	More than 60 minutes
Track Pitch	1.6μm
Modulator Frequency	44.1kHz
Transfer Rate	4.3218 Mbit/sec.
Dimensions	120×1.2 mm

Note : Due to continuing product improvement, specifications and designs are subject to change without notice.

FEATURES

The 5957S incorporates the latest technology with the following unique functions and features:

- **CD Shuttle MOUNTING VERSATILITY**
  The space-saving CD Shuttle can be mounted in a horizontal position, vertical position or one of the other three preset angles between 0° to 90°. This allows the installer to choose from a variety of mounting locations including: the trunk, under or behind the seat, or the glove compartment.

- **EJECT LIGHT**
  Operational performance at night is improved by this function. The indicator turns on and off during EJECT to show the activating condition of this function.

- **8 TIMES OVERSAMPLING DIGITAL FILTER**

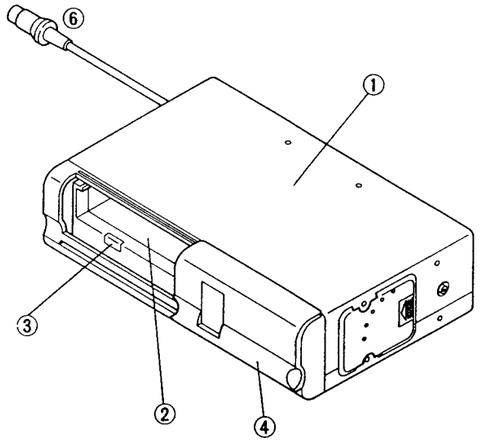
- **HYBRID I-DAC**
  Alpine's 20-bit Hybrid interpolative DAC combines 1-bit D/A conversion technology (for excellent low level linearity) and a multi-bit D/A converter (for best Dynamic Range, Signal-to-Noise Ratio, and lowest distortion and noise characteristics).
  The result is flawless, accurate performance, outstanding resolution and detail along with superb Dynamic Range.

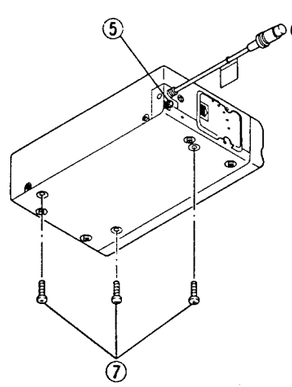
- **MAGAZINE HOUSING 6 CDs**
  Six 5-inch (12 cm) compact discs can be housed in the CD magazine and selected by operating your control unit. You can access any one of the 6 CDs in the magazine quickly and easily for playback of an entire disc or individual selections.

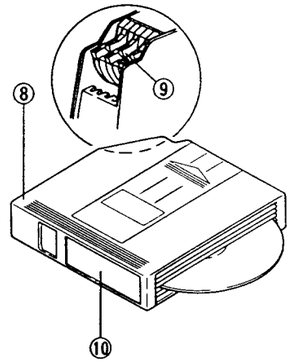
IMPORTANT NOTICE

This compact disc Shuttle has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules. This equipment generates and uses radio frequency energy, and it must be installed and used properly in accordance with the manufacturer's instructions.

PARTS IDENTIFICATION

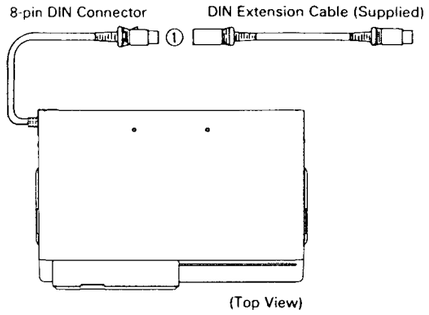


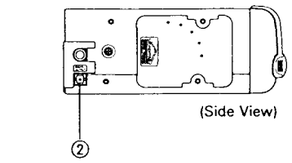




① **CD Shuttle Unit**
② **CD Magazine Insertion Slot**
③ **Eject Button**
Press this button to eject the CD magazine.
④ **CD Magazine Door**
⑤ **Digital Output Connector**
⑥ **8-pin DIN Connector**
⑦ **Shipping Screws**
Must be removed before operating the unit.
⑧ **CD Magazine**
6 discs can be housed in this case.
⑨ **Disc Lever**
⑩ **Disc Index Labels**
Put the Index Label on the CD Magazine.

CONNECTIONS





The 5957S CD Shuttle is not equipped with built-in control unit and power amplifier. Consult with your authorized Alpine dealer for connections of your control unit and power amplifier. Refer to the illustration above for connections of the Shuttle.

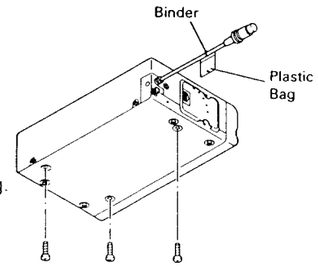
NOTE:

The 5957S is designed for 12-volt DC negative ground operation so make sure that your vehicle has this system before making electrical connections.

① **8-pin DIN Connector**
Connect this to your control unit or changer control input of your Alpine Shuttle-ready head unit.

② **Digital Output Connector**
Connect this output to a processor having a corresponding optical digital input using the fiber-optic cable supplied with the processor.

INSTALLATION



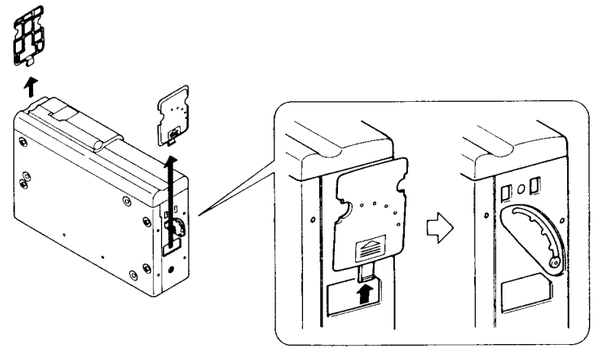
Shipping Screws

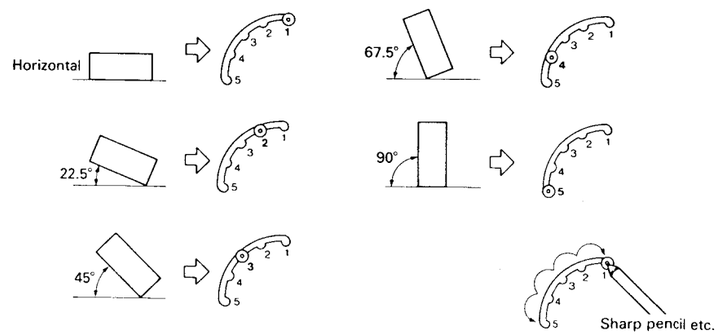
Three screws have been attached to the bottom of the Shuttle for protection during shipment. Remove these screws before using. Keep the removed screws in the plastic bag attached to the connector of Shuttle.

Changing of Spring Position

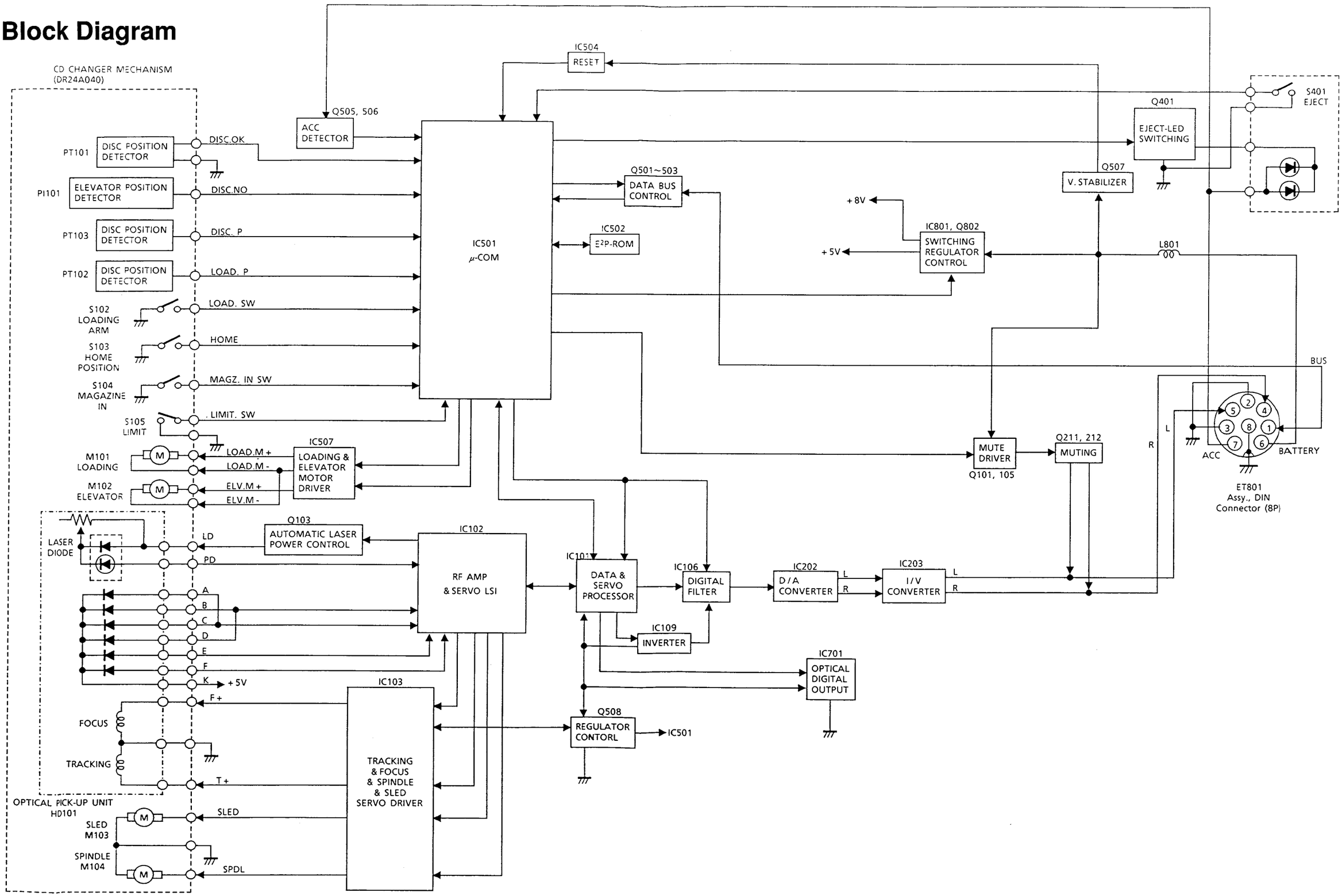
Make sure the mounting angle of the Shuttle installation will fall within the five preset positions (22.5° to 45° from the horizontal or vertical position). The Shuttle is preset at the factory for horizontal mounting. If you wish to install it at any other angle, change the spring configuration as shown.

Slide, in the direction of the arrows, then remove, the left and right side covers. Change the position of the spring with your finger or a pointed object. Use the figure below to determine which spring position would be best suited for your chosen mounting location. If the spring configuration is incorrect or the spring positions on the left and right sides are not the same, the shock absorbing mechanism will not function properly. This will prevent the CD Shuttle from operating at its best.





Block Diagram



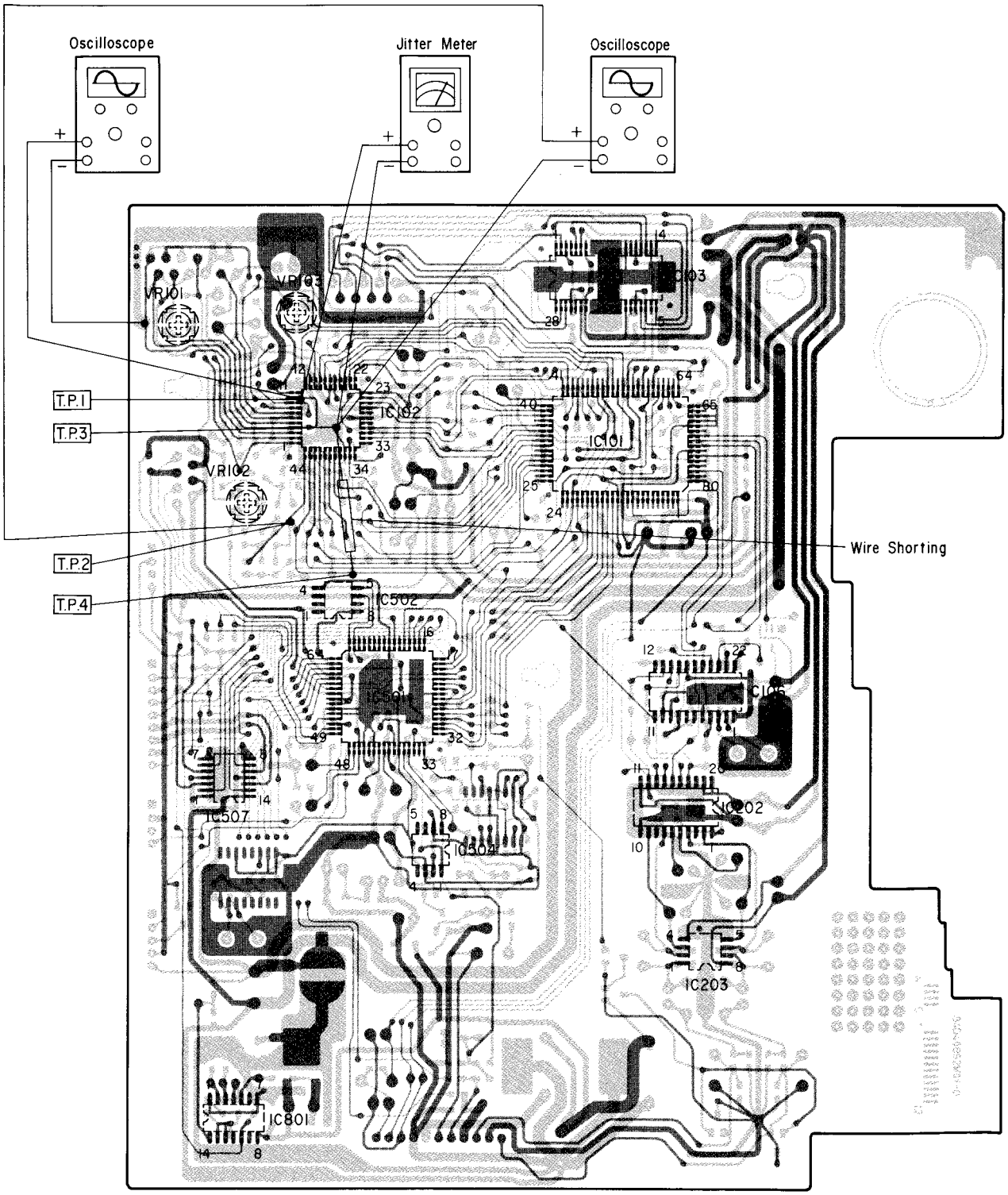
Description of IC Terminals

45552W02 (IC501)

No.	Symbol	I/O	Terminal Description
1	SCL	I	Data read clock input signal line.
2	SDA	I/O	Data reading and writing, Data input and output signal line.
3~8	NC	—	N.C.
9	GND	—	GND
10	EJT-LED	O	Lighting output signal terminal. (at PLAY, at PAUSE and at EJECT)
11	NC	—	N.C.
12	A-MUTE	O	Audio mute output signal terminal.
13	LOD M+	O	Output to move loading motor to direction for pulling in a disc.
14	LOD M-	O	Output to move loading motor to returning a disc to magazine.
15	ELV M+	O	Output signal to move up elevator.
16	ELV M-	O	Output signal to move down elevator.
17	V-CONT	O	Power supply and main power supply ON/OFF output terminal.
18	F-CONT	O	Focus gain control output.
19	$\overline{\text{LS-RST}}$	O	Circumference LSI reset signal.
20	$\overline{\text{LOAD-SW}}$	I	Loading arm operation check switch input signal.
21	$\overline{\text{HOME}}$	I	Elevator home position detection switch input signal.
22	MAG-SW	I	Magazine detection switch input terminal.
23	$\overline{\text{D-OUT}}$	O	Changer controller data output terminal.
24	GND	—	GND
25	$\overline{\text{LMT-SW}}$	I	Sled motor inner circle limit switch input terminal.
26	LOCK	I	TC9236AF (IC101) lock signal input.
27	BUS 0	I/O	Command and data communication bus line.
28	BUS 1		
29	BUS 2		
30	BUS 3		
31	BUCK	O	TC9236AF (IC101) data communication clock output terminal.
32	$\overline{\text{CCE}}$	O	TC9236AF (IC101) chip enable signal output terminal.
33	BUS-OUT	O	Bus data output.
34	NC	—	N.C.
35	RESET	I	Reset signal input terminal.
36	BUS-IN	I	Bus data input.

No.	Symbol	I/O	Terminal Description
37	BATT	I	Battery detect.
38	ACC	I	ACC ON/OFF input signal.
39	$\overline{\text{EJT-KEY}}$	I	MAGAZINE EJECT key input signal.
40	V_{DD}	—	Regulator +5V Terminal.
41	X1	—	Ceramic lock connection terminal for system clock 1. (4.19MHz)
42	X2	—	Ceramic lock connection terminal for system clock 1. (4.19MHz)
43	GND	—	GND
44	NC	—	N.C.
45	GND	—	GND
46	AV_{SS}	—	GND
47	HI-TEMP	I	High temparature detect. (Sensor)
48	LO-TEMP	I	Low temparature detect. (Sensor)
49	DISC-P	I	Disc detect photo sensor.
50	LOAD-P	I	Loading and photo sensor.
51	DISC-OK	I	Disc receive confirm photo sensor.
52	DISC-NO	I	Disc number detect photo sensor.
53	GND	—	GND
54	GND	—	GND
55	$A \cdot V_{DD}$	—	Power supply terminal.
56	$A \cdot V_{REF}$	—	Reference voltage input for D/A converter.
57~64	NC	—	N.C.

Adjustment Locations

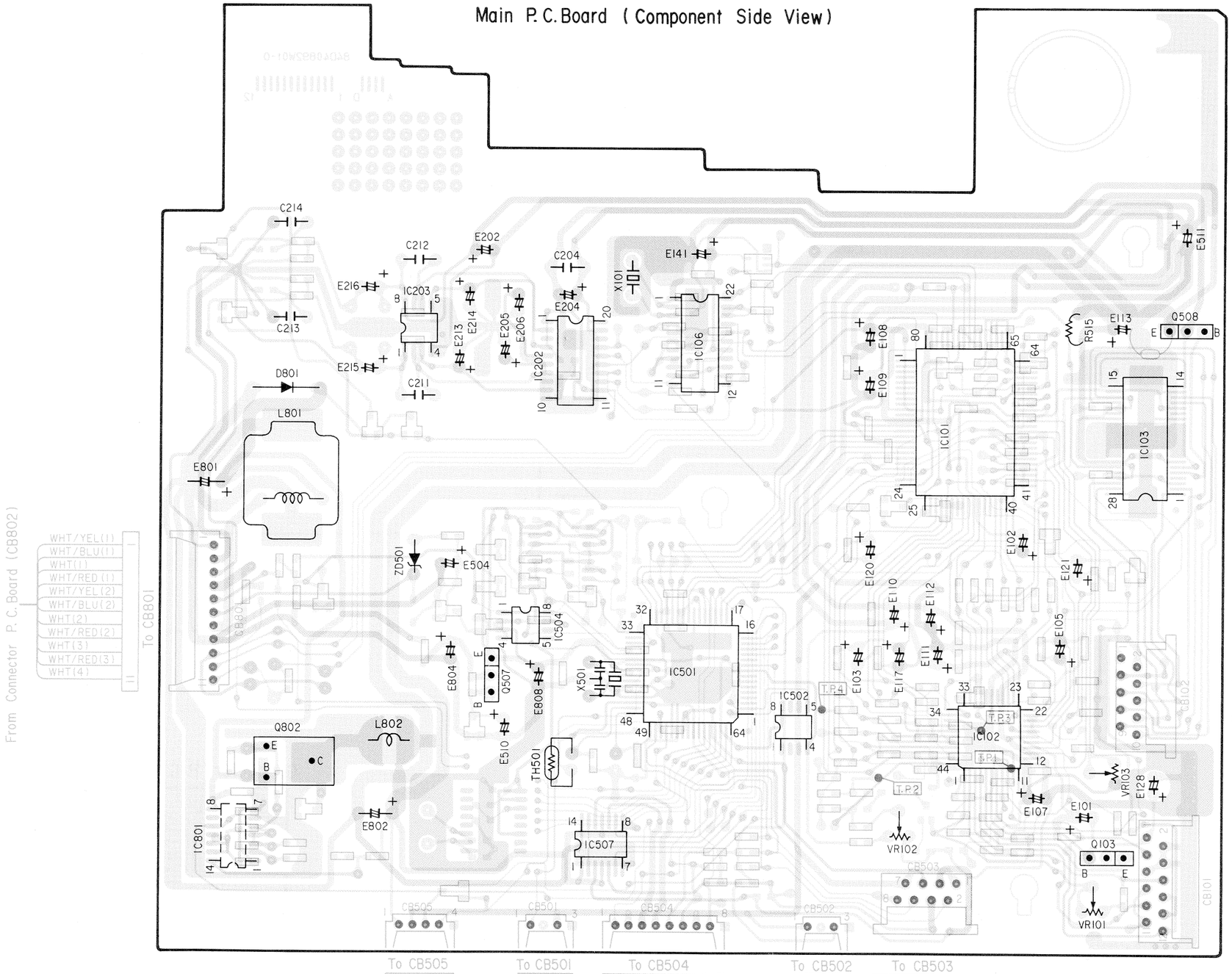


Main P.C. Board (Foil Side)

MEMO

Parts Layout on P.C. Boards and Wiring Diagram (1/2)

Main P. C. Board (Component Side View)



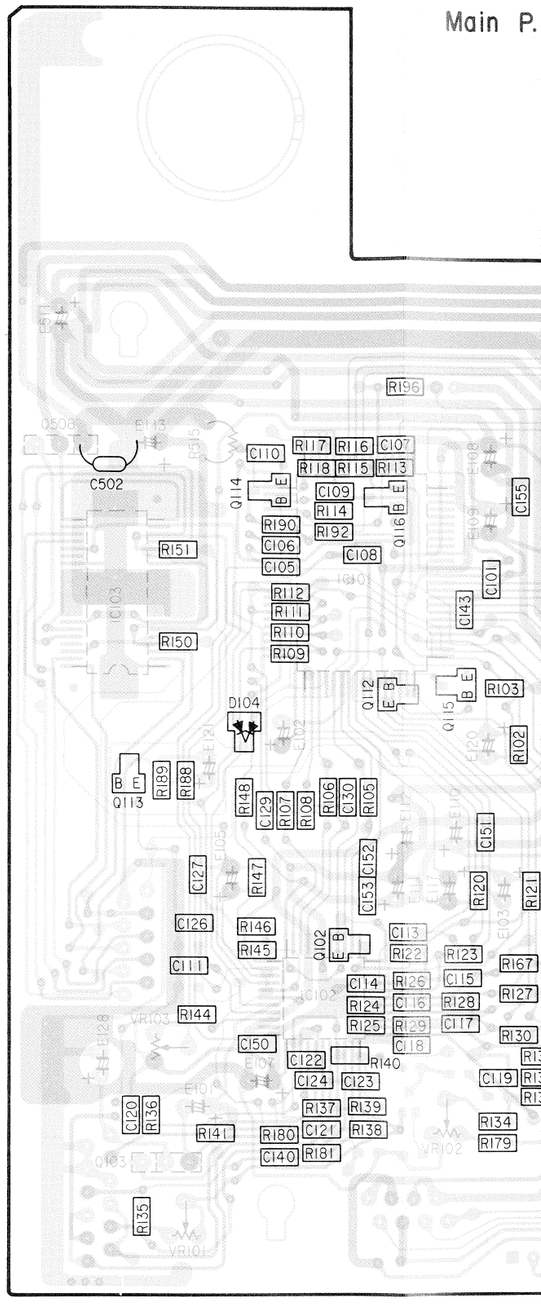
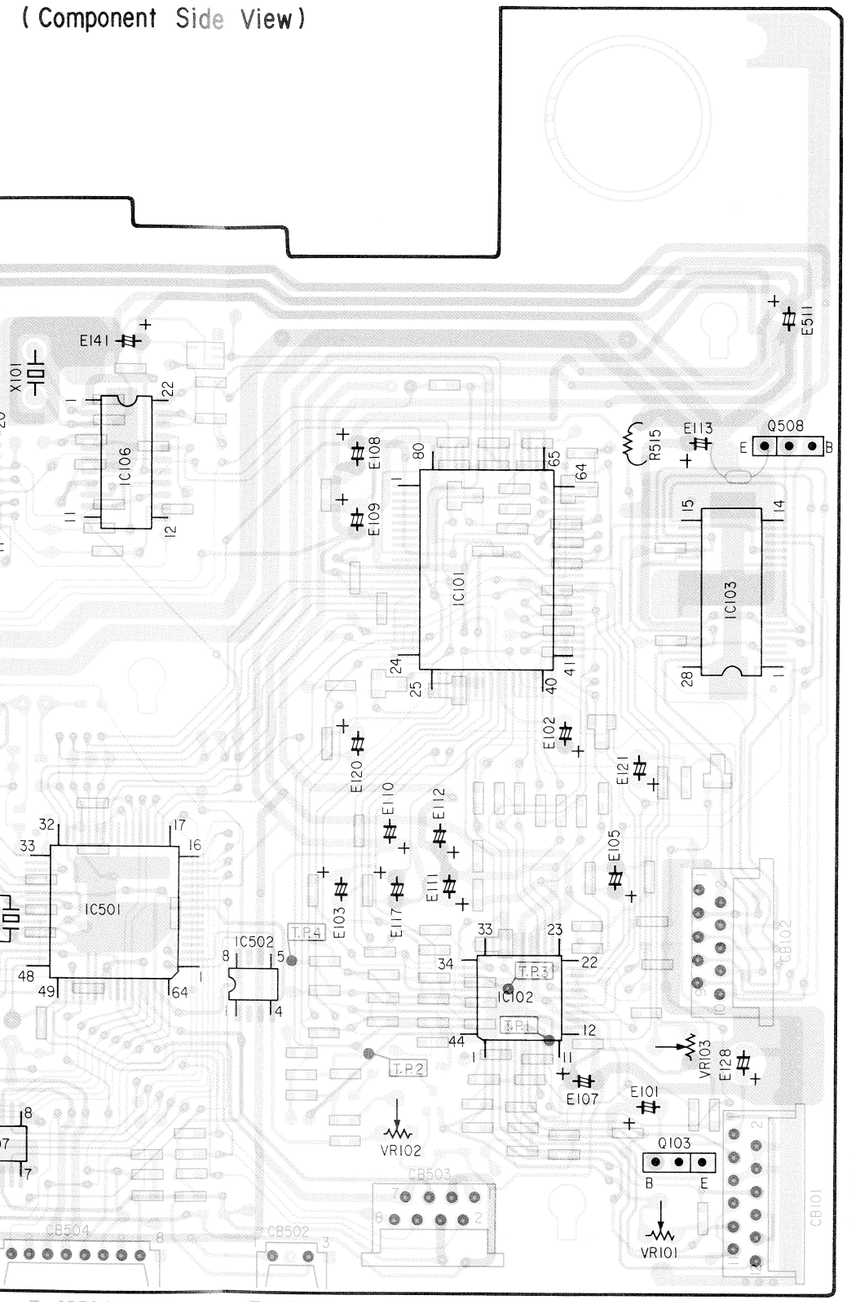
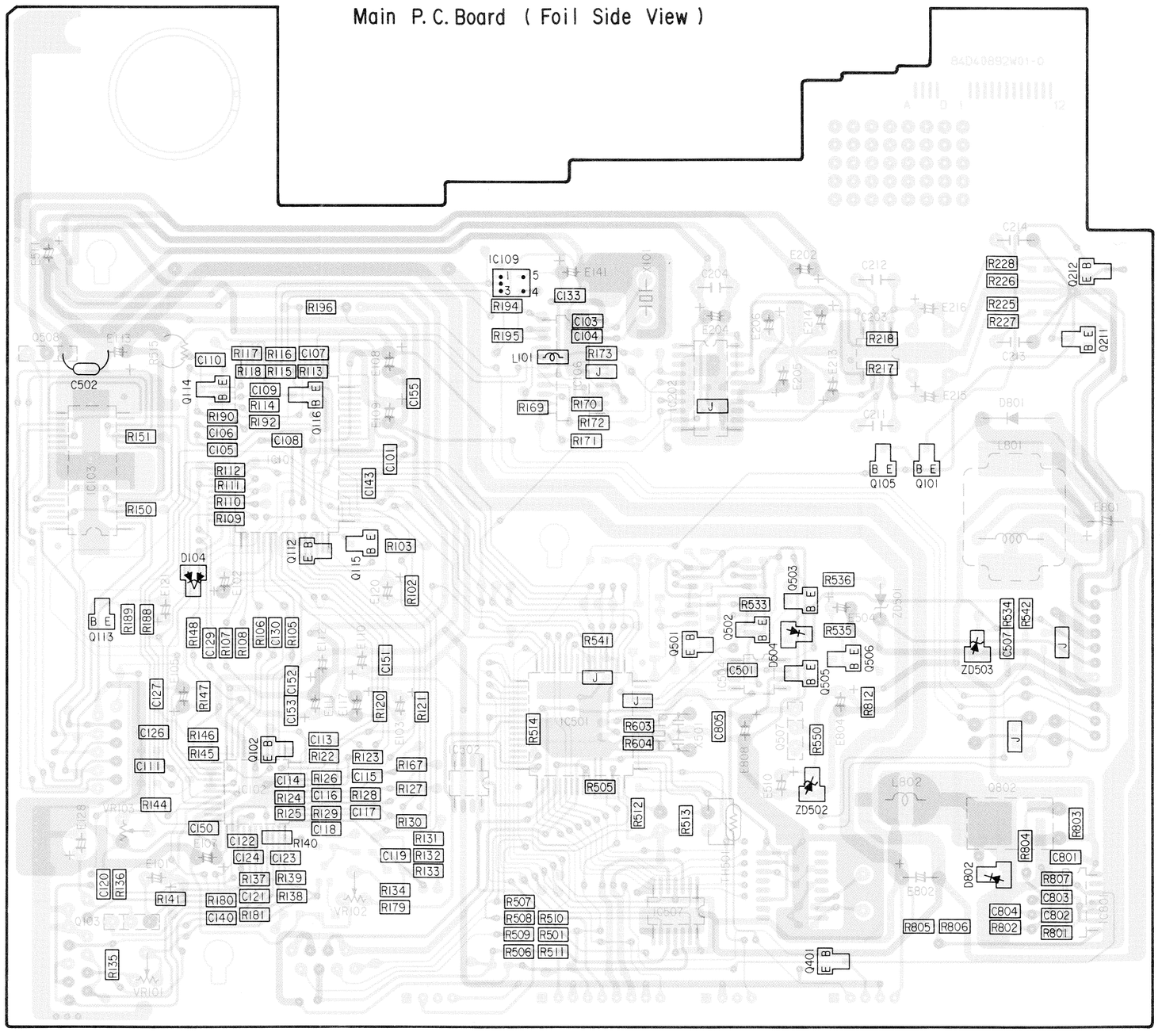


Diagram (1/2)

(Component Side View)



Main P.C.Board (Foil Side View)



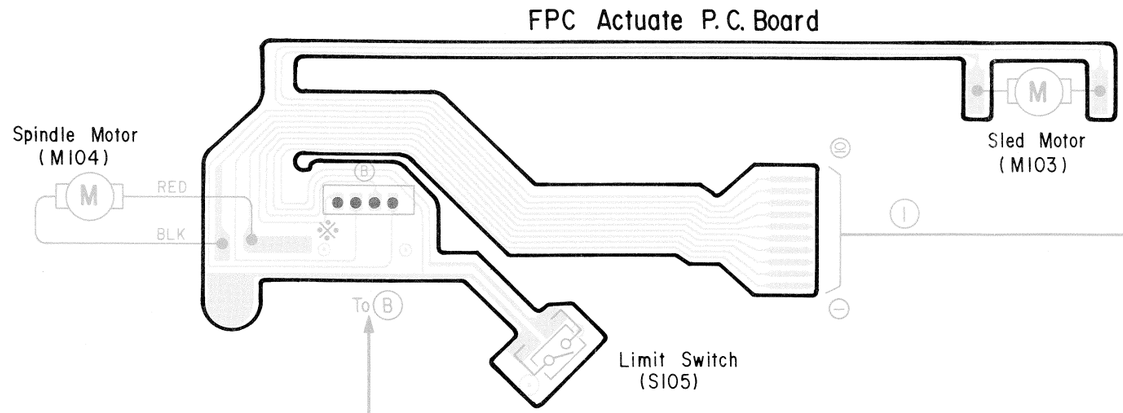
Orange Color Pattern : Component Side Pattern
Blue Color Pattern : Foil Side Pattern

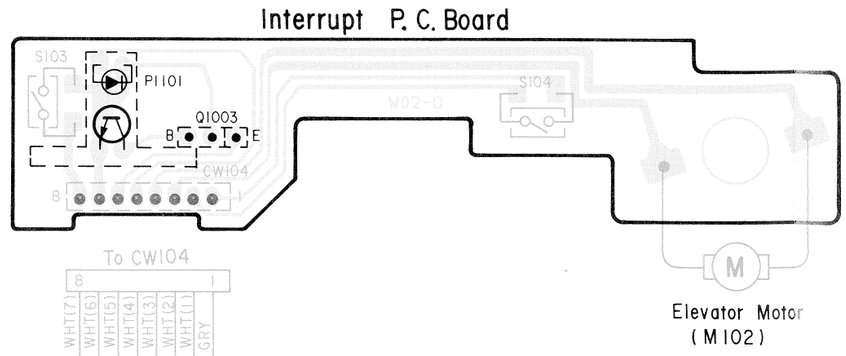
D | E | F | G | H | I | J | K

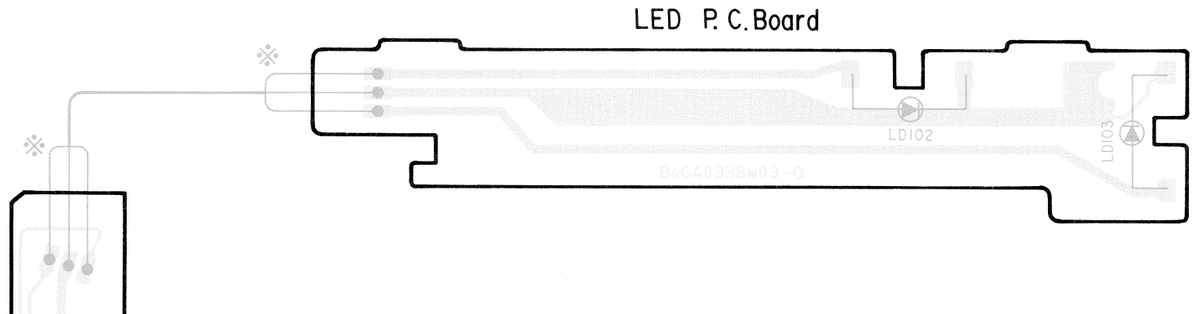
5957S 5957S

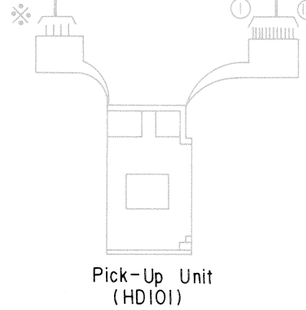
Parts Layout on P.C. Boards and Wiring Diagram (2/2)

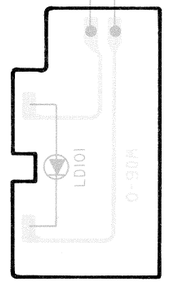
All P.C.Board viewed from soldered side.

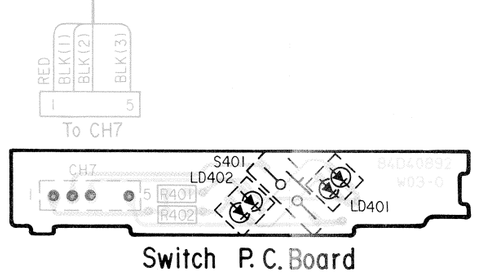


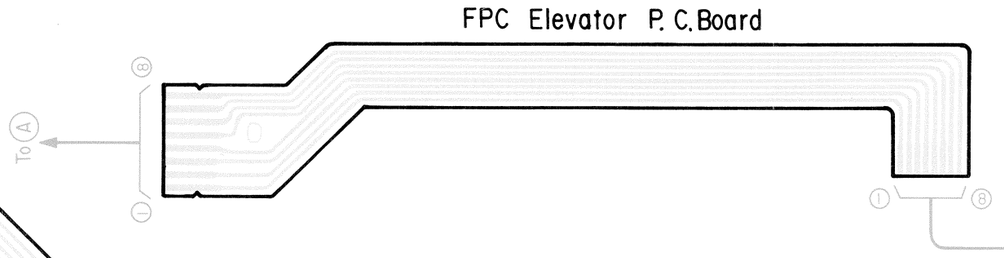


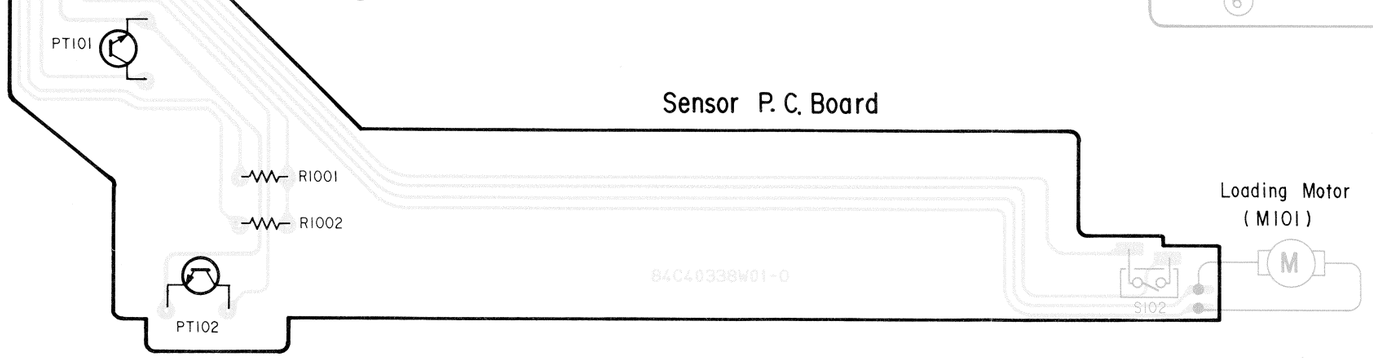


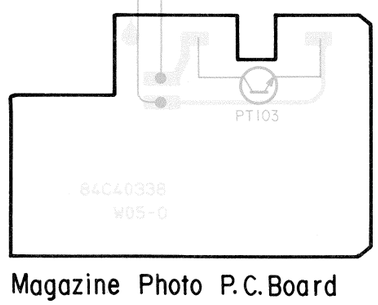


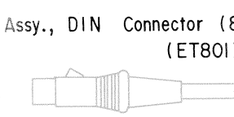












agram (2/2) All P.C.Board viewed from soldered side.

Orange Color Pattern : Component Side Pattern
Blue Color Pattern : Foil Side Pattern

Interrupt P. C. Board

Main P. C. Board

Sled Motor
(M103)

Elevator Motor
(M102)

Switch P. C. Board

Pick-Up Unit
(HD101)

Magazine LED P. C. Board

C. Board

Loading Motor
(M101)

Magazine Photo P. C. Board

Assy., DIN Connector (8P)
(ET801)

Connector P. C. Board

Lug

Schematic Diagram (1/2)

IC	IC507	IC102	IC502	IC101
Transistor (Q, PT, PI)	PT103 PT101 PT102 PI101 Q1003 Q112 Q103	Q113	Q102 Q115 Q116	IC501 Q114

Main P. C. Board (1/2)

Magazine Photo P. C. Board

PT103 PS5022

DISC POSITION DETECTOR

Magazine LED P. C. Board

LD101 AN501

Sensor P. C. Board

PT101

PS5022-B1 x2

PT102

LED P. C. Board

LD102 AN501

LD103 AN501

R1001 1K

R1002 1K

S102 LOADING

M101 LOADING

Interrupt P. C. Board

S104 MAGAZINE

PI101 GP1S51

M102 ELEVATOR

Q1003 2SA937

DISC NO. DETECTOR

S103 HOME POSITION

HD101 PICK-UP UNIT

LASER DIODE

VR 2KB

TRACKING COIL

FOCUS COIL

M104 SPINDLE

M103 SLED

S105 LIMIT

CB501 (DISC-OK) (51) R505 47K

CB502 (GND) (D-OK LED) (50) R506 390

CB503 (DISC-P) (49) R507 18K; (GND) (LOAD-P) (50) R508 18K; (+5V) (LOAD M+) (LOAD M-) (LOAD SW) (20) R509 33K; (GND) R541 47K

CB504 (MAGZ-IN SW) (22); (GND) (ELV-M+) (ELV-M-) (DISC-NO LED) R510 470; (DISC-NO) (52) R501 220; (GND) (HOME) (21) R511 33K

CB101 (LD) (GND) (VR) (RD) (GND) (LIMIT-SW) (25) R148 33K; (F-) (2); (SPDL) (11); (T-) (26); (SL) (18)

CB102

C120 0.01; R136 2.2K

R179 2.7K; VR102 15K; R134 560K; VR101 150K; R135 100K

IC507 LB1836M — LOADING AND ELEVATOR MOTOR DRIVER

(IC501) (+5V) OUT 3 OUT 4 OUT 2 OUT 1 CONTROL THERMAL SHUTDOWN CONTROL IN 4 IN 3 IN 2 IN 1 (15) (16) (13) (14)

IC502 X24LC01SI — E²P-ROM

D OUT; D OUT ACK; PIN; CX; DATA REGISTER; 8; YDEC; 32; 2; 5; E PROM 32 x 32; 32 XDEC; R/W; WORD ADDRESS COUNTER; INC; LOAD; CONTROL LOGIC; H.V. GENERATION TIMING & CONTROL; START CYCLE; START STOP LOGIC; Vcc

CD SCRATCH SWITCHING

Q115 DTA124

R105 33K

CD SCRATCH SWITCHING

Q116 DTC124K

IC101 TC9236AF — DATA and SERVO PROCESSOR

LOCK TEST1 DFCT TEL 2 TEL 1 TGUL TGUH2 TGUH1 TKIC FMON FMON FMFB TEST DMON DMFC DMPC

CLOCK SUBQ CONT RST 4MCK BUCK CDE BUS-3 BUS-2 BUS-1 BUS-0 GND D Vpp D XO XI SBOK SUBQ SUBSYC PFCK SPDA CDFS CKSW TEST5 TEST4

MCK TEST3 EMPH RS TEST2 D OUT CKSE A OUT BCK CHCK WDCK MOD 2 MOD 1 MOD 0 PLCK VCOX

2Ver SEL FCSI FKIC FEL 2 FEL 1 FEI TESH TEOF SBAD RFRP Ver RFI GND A DTSC 2 EFMO DTSC 1 Vpp A PDCNT PDO TMAX LPFN LPFO VCOF

E102 10/16

C110 0.01; C106 3300P; C105 3300P

R111 18K; R112 39K; R113 1K; R115 10K; R192 10K; R118 33K; R117 2.2M; R114 220K; C107 100P; C109 0.01; C101 0.1; R116 47K

D104 DAN202K

R108 100K; R107 220K; C111 1000P; Q114 DTC124K; R190 47K; C150 0.047; C155 0.047

CD SCRATCH SWITCHING

R514 10K; R512 47K; R513 10K

IC501 45552W02 — μ-COM

N.C N.C N.C N.C N.C N.C N.C N.C A Ver A Vpp GND GND DISC-NO DISC-OK LOAD-P DISC-P

SCL SDA N.C N.C N.C N.C N.C N.C GND EJT-LED N.C A-MUTE LOD M+ LOD M- ELV M+ ELV M-

LO-TEMP HI-TEMP A Vss GND N.C GND X 1 X 2 Vpp EJT-KEY ACC BATT BUS-IN RESET N.C BUS-OUT

V-CONT F-CONT 3S-RST LOAD-SW HOME MAG-SW DF-OUT GND TMT-SW LOCK BUS-0 BUS-1 BUS-2 BUS-3 BUCK CDE

TH501 100K; X501 4.19MHz; R603 100K

Q112 DTC114TK — CD SCRATCH SWITCHING

(TESL2) (TEL1) (28) (29)

R131 10K; R130 22K; C118 0.047; R129 15K; C117 2700P; R128 100K; R127 120K; T.P. 4; R102 470K; R103 270; E120 10/16; R133 10K; R132 10K; C119 56P; T.P. 2

R125 47K; R124 18K; C114 3900P; R120 10K; R126 10K; C116 220P; C113 0.022; R122 2.7K; R167 100K; C115 0.1; R123 180K; E103 10/16; E117 0.47/50

(30) (32) (33) (49) (41)

Q102 2SA1037K — 5V SWITCH

R121 27K

TSN TSO TSIP TSIN TSIO TS2P TS2N TS2O 2VRN 2VRP 2VRO

TPO TPI TNI FNI FPI LDO MDI RFN RFO RFI Vref

FAPO FMEP FMEN FMEO FMPO PVR DMPO DMEO DMEN DMEP Vcc

IC102 TA8191F — RF AMP AND SERVO LSI

RFRP SBAD FEB FEO SEL Vrx FSN FSO COSC OSCI GND

C124 3P; T.P. 1; R140 4.7K; R137 10K; R180 10K; C123 0.047; T.P. 3; C121 12P; R138 15K; R139 4.7K; C122 0.01

R106 22K; C130 4700P; C129 0.01; R109 18K; R110 1.5K

(36) (42) (47) (51) (53)

AUTOMATIC LASER POWER CONTROL

Q103 2SB1237

R181 22K; R145 560; C126 0.1; C140 4700P; VR103 2.2K; R144 1K; C127 0.1; R146 15K; E105 3.3/25; R147 68K; R188 3.3K; R141 10-1/4; E101 100/6.3; E128 10/16

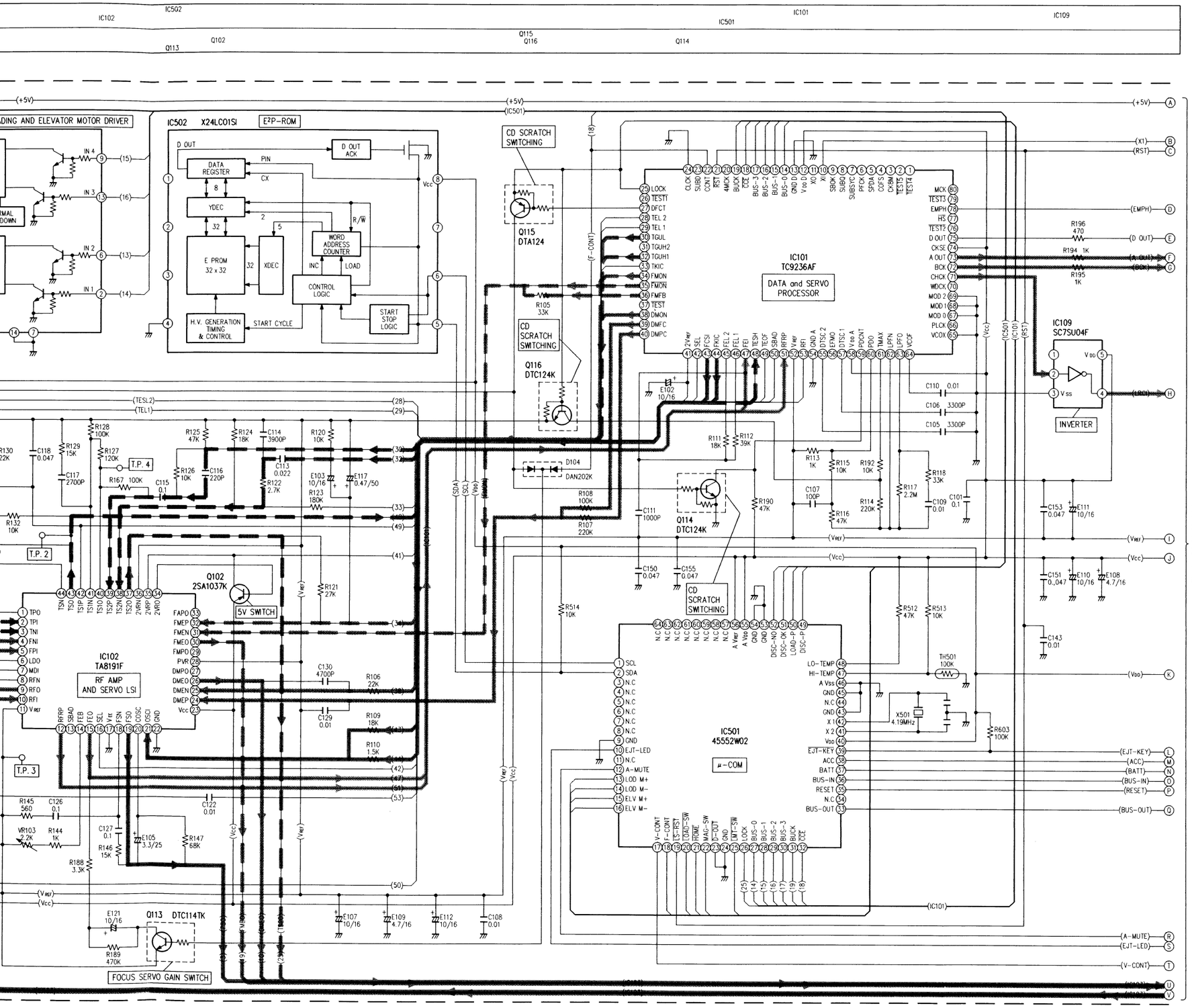
(50)

Q113 DTC114TK — FOCUS SERVO GAIN SWITCH

E121 10/16; R189 470K

E107 10/16; E109 4.7/16; E112 10/16; C108 0.01; C152 0.047

(Vcc) (Vref) (IC501) (IC101) (RST)



NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. P = $\frac{1}{1{,}000{,}000}$

IC101

1	N.C	17	PS	33	2.05V	49	2.1V	65	0V
2	N.C	18	PS	34	2.07V	50	2.1V	66	N.C
3	N.C	19	PS	35	2.1V	51	2.2V	67	0V
4	N.C	20	N.C	36	2.1V	52	2.1V	68	0V
5	N.C	21	4.8V	37	N.C	53	2.5V	69	0V
6	N.C	22	0V	38	2.1V	54	0V	70	N.C
7	N.C	23	N.C	39	PS	55	2.53V	71	PS
8	N.C	24	0V	40	PS	56	N.C	72	PS
9	N.C	25	PS	41	4.2V	57	2.53V	73	PS
10	PS	26	N.C	42	5V	58	5V	74	5V
11	N.C	27	PS	43	2.5V	59	PS	75	PS
12	5V	28	2.1V	44	2.5V	60	PS	76	N.C
13	0V	29	2.1V	45	2.1V	61	2.1V	77	N.C
14	PS	30	2.1V	46	2.1V	62	2.1V	78	5V
15	PS	31	N.C	47	2.1V	63	2V	79	N.C
16	PS	32	2.1V	48	2.1V	64	2.2V	80	N.C

IC102

1	1.8V	17	0V	33	N.C
2	2.1V	18	2.1V	34	4.45V
3	2.1V	19	2.2V	35	4.19V
4	2.1V	20	2.15V	36	2.1V
5	2.1V	21	2.52V	37	2.05V
6	3.95V	22	0V	38	2.09V
7	0.18V	23	5.03V	39	2.09V
8	2.1V	24	2.17V	40	2.09V
9	2.45V	25	2.17V	41	2.09V
10	2.1V	26	2.35V	42	2.09V
11	2.1V	27	N.C	43	2.1V
12	2.2V	28	2.1V	44	2.1V
13	N.C	29	N.C		
14	2.08V	30	2.05V		
15	2.11V	31	2.1V		
16	5V	32	2.09V		

IC109

1	N.C
2	PS
3	0V
4	PS
5	5V

IC501

1	4.86V	17	4.81V	33	PS	49	4.99V
2	4.86V	18	0V	34	N.C	50	0.14V
3	N.C	19	4.85V	35	4.86V	51	0.17V
4	N.C	20	0V	36	PS	52	5.03V
5	N.C	21	0V	37	4.88V	53	0V
6	N.C	22	0V	38	4.85V	54	0V
7	N.C	23	0V	39	4.81V	55	5.03V
8	N.C	24	0V	40	4.86V	56	5.03V
9	0V	25	5.02V	41	PS	57	N.C
10	4.82V	26	5V	42	PS	58	N.C
11	N.C	27	PS	43	0V	59	N.C
12	0V	28	PS	44	N.C	60	N.C
13	4.84V	29	PS	45	0V	61	N.C
14	4.84V	30	PS	46	0V	62	N.C
15	4.84V	31	PS	47	4.31V	63	N.C
16	4.84V	32	PS	48	5.01V	64	N.C

IC502

1	N.C
2	N.C
3	N.C
4	0V
5	4.86V
6	4.86V
7	N.C
8	4.85V

IC507

1	7.34V	8	7.34V
2	4.83V	9	4.83V
3	0V	10	0V
4	7.34V	11	7.34V
5	0V	12	0V
6	4.83V	13	4.83V
7	0V	14	0V

	E	C	B
Q102	5.03V	4.2V	4.44V
Q103	4.5V	1.8V	3.95V
Q112	2.1V	2.05V	PS
Q113	2.1V	2.05V	PS
Q114	0V	PS	PS
Q115	PS	0V	PS
Q116	2.09V	2.1V	PS
Q1003	PS	0V	0.2V

[Measuring Conditions]
- Power Supply Voltage : DC 14.4V
- Measuring Meter : Digital Multi Volt Meter
- Measuring Point Reference : Between Ground
- Measuring Condition : Test Disc Play (A-BEX TCD-782 Track No.2 1kHz)

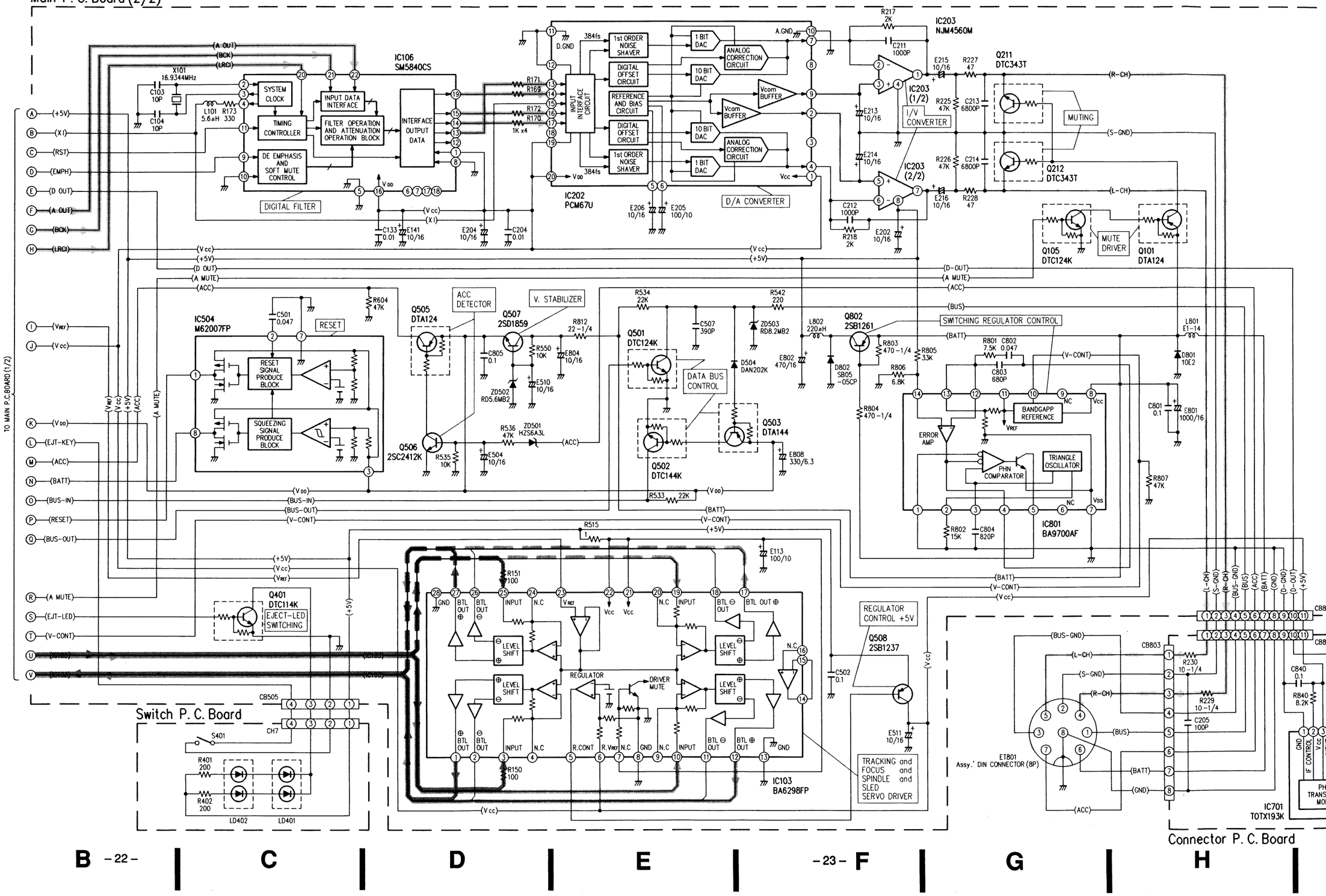
CD Signal Line (Digital)
Focus Error Signal Line
Tracking Error Signal Line
Spindle Drive Signal Line
Sled Drive Signal Line

5957S 5957S

Schematic Diagram (2/2)

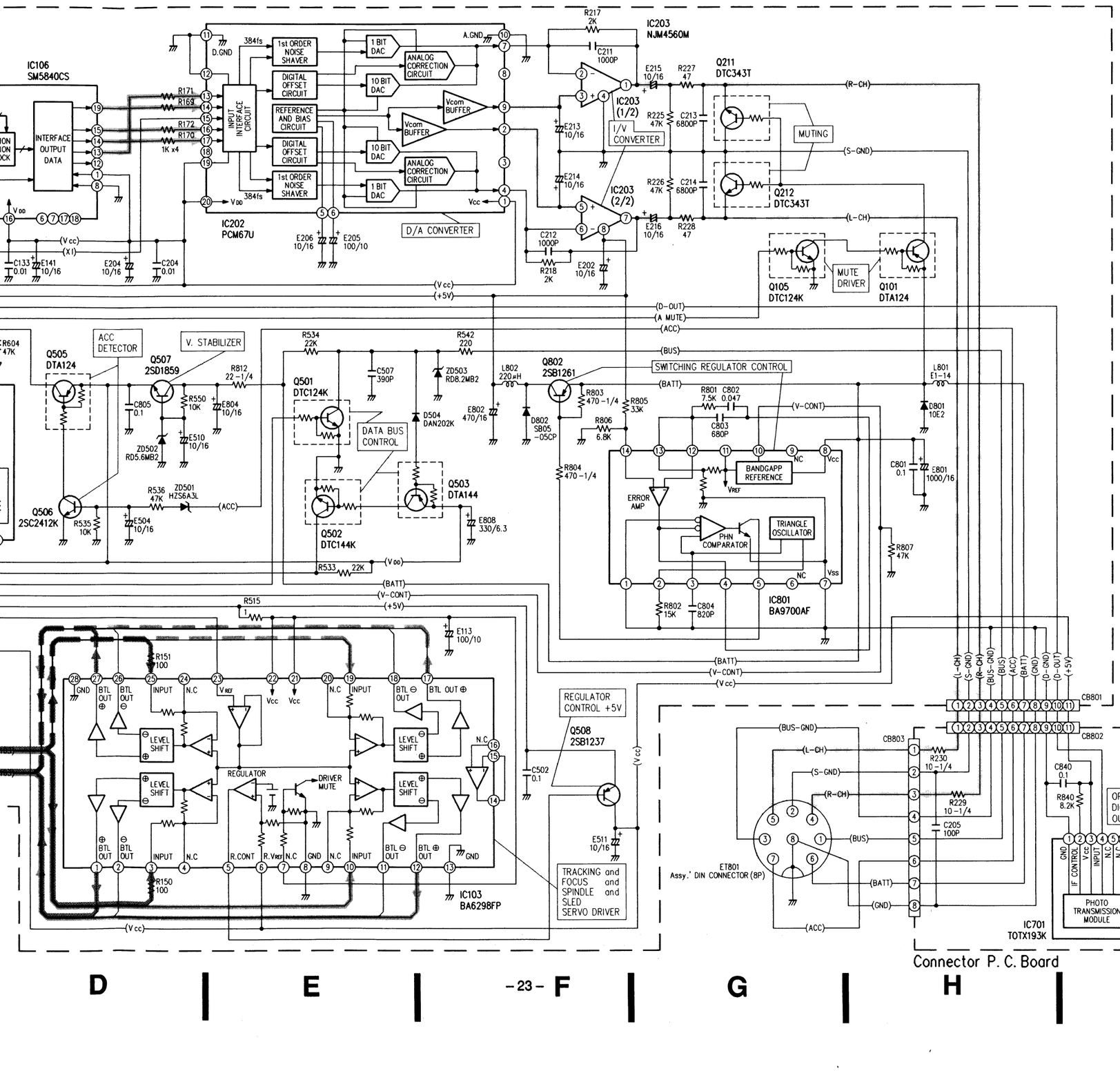
IC	IC504	IC106	IC202	IC103	IC203	IC801	IC701
Transistor (Q)	Q401	Q506 Q505	Q507	Q501 Q502	Q503	Q802 Q508	Q211 Q105 Q212	Q101

Main P. C. Board (2/2)



IC106 IC202 IC103 IC203 IC801 IC701

Q506 Q505 Q507 Q501 Q502 Q503 Q802 Q508 Q211 Q105 Q212 Q101



IC103

1	3.2V	15	6.88V
2	3.52V	16	N.C
3	2.23V	17	3.45V
4	N.C	18	3.25V
5	6.68V	19	2.05V
6	5.04V	20	N.C
7	7.15V	21	7.12V
8	0V	22	7.12V
9	N.C	23	2.1V
10	2.35V	24	N.C
11	6.69V	25	2.05V
12	3.05V	26	3.3V
13	0V	27	3.4V
14	6.88V	28	0V

IC106

1	5.04V	12	N.C
2	PS	13	PS
3	PS	14	PS
4	PS	15	PS
5	0V	16	5.04V
6	N.C	17	N.C
7	N.C	18	N.C
8	0V	19	PS
9	5.02V	20	PS
10	0V	21	PS
11	4.85V	22	PS

IC202

1	5.04V	11	0V
2	3.4V	12	0V
3	N.C	13	PS
4	3.4V	14	PS
5	3.24V	15	PS
6	4.08V	16	PS
7	3.4V	17	PS
8	N.C	18	N.C
9	3.4V	19	5.04V
10	0V	20	5.04V

IC203

1	4.57V		
2	3.4V		
3	3.4V		
4	0V		
5	3.4V		
6	3.4V		
7	4.58V		
8	7.31V		

IC504

1	4.86V		
2	4.77V		
3	4.86V		
4	N.C		
5	N.C		
6	N.C		
7	0V		
8	4.88V		

IC701

1	0V		
2	5V		
3	5V		
4	PS		
5	N.C		
6	N.C		

IC801

1	0V	8	13.1V
2	0.87V	9	N.C
3	1.7V	10	4.82V
4	1.18V	11	N.C
5	PS	12	1.25V
6	N.C	13	1.25V
7	0V	14	1.25V

	E	C	B
Q101	13.02V	0V	12.96V
Q105	0V	12.98V	0V
Q211	0V	0V	0V
Q212	0V	0V	0V
Q401	0V	0.12V	4.81V
Q501	0V	PS	PS
Q502	0V	PS	PS
Q503	4.9V	PS	PS
Q505	4.86V	4.85V	0V
Q506	0V	0V	0.6V
Q507	4.86V	12.86V	5.46V
Q508	7.31V	5.04V	6.68V
Q802	12.98V	7.54V	12.49V

[Measuring Conditions]
* Power Supply Voltage : DC 14.4V
* Measuring Meter : Digital Multi Volt Meter
* Measuring Point Reference : Between Ground
* Measuring Condition : Test Disc Play (A-BEX TCD-782 Track No.2 1kHz

CD Signal Line (Digital)
L-ch Signal Line
R-ch Signal Line
Focus Error Signal Line
Tracking Error Signal Line
Spindle Drive Signal Line
Sled Drive Signal Line

NOTES:
1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. P = $\frac{1}{1{,}000{,}000}$

Electrical Parts List

Resistor : Carbon resistors under 1/4 watts are not mentioned in the parts list, please confirm them by schematic diagram.

Capacitor : μF = microfarads, pF = picofarads

Abbreviations

RES. =	Resistor	CAP. =	Capacitor
C.F. =	Carbon Film	ELY. =	Electrolytic
M.F. =	Metal Film	CER. =	Ceramic
M.O. =	Metal Oxide Film	MYL. =	Mylar
M.P. =	Metal Plate	TAN. =	Tantalum
TR. =	Transistor	POLY. =	Polystyrol
TRANS. =	Transformer	PP. =	Polypropylene
CP. =	Chip	PLT. =	Polyethylene
		PF. =	Polyester Film

Main P. C. Board

IC's

Symbol No.	Part No.	Description
IC101	51T25985W02	TC9236AF
IC102	51T25984W01	TA8191F
IC103	51T45577W02	BA6298FP
IC106	51T35105W02	SM5840CS
IC109	51T45285W01	SC7SU04F
IC202	51T35409W03	PCM67U
IC203	51T93337F01	NJM4560M
or	51T92001F01	BA4560F
IC501	51T45552W02	45552W02
IC502	51T45522W02	X24LC01SI
IC504	51T35308W01	M62007FP
IC507	51T45571W02	LB1836M
IC801	51T35436W02	BA9700AF

Transistors

Symbol No.	Part No.	Description
Q101	48T62966F03	CP., DTA124
or	48T64221F02	CP., UN2112
Q102	48T63420F01	CP., 2SA1037K
Q103	48T83417F03	2SB1237
Q105	48T62967F03	CP., DTC124K
or	48T64222F02	CP., UN2212
Q112	48T62967F09	CP., DTC114TK
or	48T64222F05	CP., UN2215
Q113	48T62967F09	CP., DTC114TK
or	48T64222F05	CP., UN2215
Q114	48T62967F03	CP., DTC124K
or	48T64222F02	CP., UN2212
Q115	48T62966F03	CP., DTA124
or	48T64221F02	CP., UN2112
Q116	48T62967F03	CP., DTC124K
or	48T64222F02	CP., UN2212
Q211	48T62967F33	CP., DTC343T
Q212	48T62967F33	CP., DTC343T
Q401	48T62967F02	CP., DTC114K
Q501	48T62967F03	CP., DTC124K
or	48T64222F02	CP., UN2212
Q502	48T62967F04	CP., DTC144K
or	48T64222F03	CP., UN2213
Q503	48T62966F04	CP., DTA144
or	48T64221F03	CP., UN2113
Q505	48T62966F03	CP., DTA124
or	48T64221F02	CP., UN2112
Q506	48T63417F01	CP., 2SC2412K
Q507	48T83835F03	2SD1859
Q508	48T83417F03	2SB1237
Q802	48T15511W02	CP., 2SB1261

Diodes

Symbol No.	Part No.	Description
D104	48T63462F01	CP., DAN202K
or	48T52446F01	CP., MA151WK
D504	48T63462F01	CP., DAN202K
or	48T52446F01	CP., MA151WK
D801	48T81044F01	10E2
D802	48T15702W01	CP., SB05-05CP
ZD501	48T25766W03	Zener, HZS6A3L
ZD502	48T62934F22	Zener, CP. RD5.6MB2
ZD503	48T62934F34	Zener, CP. RD8.2MB2

Crystals

Symbol No.	Part No.	Description
X101	91T25806W92	16.9344MHz
X501	91T15285W01	CER. Lock, 4.19MHz

Coils

Symbol No.	Part No.	Description
L101	24T16403W24	Inductor, 5.6μH
L801	25T47510F01	Choke Filter, EI-14
L802	24T45570W17	CDR105, 220μH

Symbol No.	Part No.	Description
Thermistor		
TH501	48T93439F06	100K ohm
Capacitors		
C101	08S53332F57	CP., 0.1μF
E101	23S61523F08	ELY., 100μF/6.3V
E102	23S61523F12	ELY., 10μF/16V
C103	08S65128F12	CP., 10pF
E103	23S61523F12	ELY., 10μF/16V
C104	08S65128F12	CP., 10pF
C105	08S65128F63	CP., 3300pF
E105	23S61523F16	ELY., 3.3μF/25V
C106	08S65128F63	CP., 3300pF
C107	08S65128F35	CP., 100pF
E107	23T74437F32	TAN., 10μF/16V
C108	08S65128F69	CP., 0.01μF
E108	23T74437F30	TAN., 4.7μF/16V
C109	08S65128F69	CP., 0.01μF
E109	23T74437F30	TAN., 4.7μF/16V
C110	08S65128F69	CP., 0.01μF
E110	23T74437F32	TAN., 10μF/16V
C111	08S65128F57	CP., 1000pF
E111	23T74437F32	TAN., 10μF/16V
E112	23T74437F32	TAN., 10μF/16V
C113	08T15399W01	CP., 0.022μF
E113	23T25149W13	ELY., 100μF/10V
C114	08S65128F64	CP., 3900pF
C115	08T15807W05	CP., 0.1μF
C116	08S65128F43	CP., 220pF
C117	08S65128F62	CP., 2700pF
E117	23S61523F28	ELY., 0.47μF/50V
C118	08T15399W03	CP., 0.047μF
C119	08S65128F29	CP., 56pF
C120	08S65128F69	CP., 0.01μF
E120	23S61523F12	ELY., 10μF/16V
C121	08S65128F13	CP., 12pF
E121	23S61523F12	ELY., 10μF/16V
C122	08S65128F69	CP., 0.01μF
C123	08T15399W03	CP., 0.047μF
C124	08S82122F06	CP., 3pF
C126	08T15807W05	CP., 0.1μF
C127	08T15807W05	CP., 0.1μF
E128	23T74437F32	TAN., 10μF/16V
C129	08S65128F69	CP., 0.01μF
C130	08S65128F65	CP., 4700pF
C133	08S65128F69	CP., 0.01μF
C140	08S65128F65	CP., 4700pF

Symbol No.	Part No.	Description
E141	23T74437F32	TAN., 10μF/16V
C143	08S65128F69	CP., 0.01μF
C150	08T15399W03	CP., 0.047μF
C151	08T15399W03	CP., 0.047μF
C152	08T15399W03	CP., 0.047μF
C153	08T15399W03	CP., 0.047μF
C155	08T15399W03	CP., 0.047μF
E202	23T25149W09	ELY., 10μF/16V
C204	08T35388W17	TF, 0.01μF
E204	23T25149W09	ELY., 10μF/16V
E205	23T25149W13	ELY., 100μF/10V
E206	23T25149W09	ELY., 10μF/16V
C211	08T35388W05	TF, 1000pF
C212	08T35388W05	TF, 1000pF
C213	08T35388W15	TF, 6800pF
E213	23T25149W09	ELY., 10μF/16V
C214	08T35388W15	TF, 6800pF
E214	23T25149W09	ELY., 10μF/16V
E215	23T25149W09	ELY., 10μF/16V
E216	23T25149W09	ELY., 10μF/16V
C501	08T15399W03	CP., 0.047μF
C502	08S65480F63	CER., 0.1μF
E504	23S61523F12	ELY., 10μF/16V
C507	08S65128F49	CP., 390pF
E510	23S61523F12	ELY., 10μF/16V
E511	23T25149W09	ELY., 10μF/16V
C801	08S53332F57	CP., 0.1μF
E801	23T00149L32	ELY., 1000μF/16V
C802	08T15399W03	CP., 0.047μF
E802	23T00149L28	ELY., 470μF/16V
C803	08S65128F55	CP., 680pF
C804	08S82122F59	CP., 820pF
E804	23S61523F12	ELY., 10μF/16V
C805	08S53332F57	CP., 0.1μF
E808	23S16086W02	ELY., 330μF/6.3V

Resistors (All resistors are chip 1/10W ± 5% unless otherwise noted.)		
R102	06S64996F18	470K ohm
R103	06S64995F39	270 ohm
R105	06S64995F89	33K ohm
R106	06S64995F85	22K ohm
R107	06S64996F10	220K ohm
R108	06S64996F02	100K ohm
R109	06S64995F83	18K ohm
R110	06S64995F57	1.5K ohm
R111	06S64995F83	18K ohm
R112	06S64995F91	39K ohm

Symbol No.	Part No.	Description
R113	06S64995F53	1K ohm
R114	06S64996F10	220K ohm
R115	06S64995F77	10K ohm
R116	06S64995F93	47K ohm
R117	06S64996F30	2.2M ohm
R118	06S64995F89	33K ohm
R120	06S64995F77	10K ohm
R121	06S64995F87	27K ohm
R122	06S64995F63	2.7K ohm
R123	06S64996F08	180K ohm
R124	06S64995F83	18K ohm
R125	06S64996F93	47K ohm
R126	06S64995F77	10K ohm
R127	06S64996F04	120K ohm
R128	06S64996F02	100K ohm
R129	06S64995F81	15K ohm
R130	06S64995F85	22K ohm
R131	06S64995F77	10K ohm
R132	06S64995F77	10K ohm
R133	06S64995F77	10K ohm
R134	06S64996F20	560K ohm
R135	06S64996F02	100K ohm
R136	06S64995F61	2.2K ohm
R137	06S64995F77	10K ohm
R138	06S64995F81	15K ohm
R139	06S64995F69	4.7K ohm
R140	06S64995F69	4.7K ohm
R141	06T70072F05	10 ohm 1/4W
R144	06S64995F53	1K ohm
R145	06S64995F47	560 ohm
R146	06S64995F81	15K ohm
R147	06S64995F97	68K ohm
R148	06S64995F89	33K ohm
R150	06S64995F29	100 ohm
R151	06S64995F29	100 ohm
R167	06S64996F02	100K ohm
R169	06S64995F53	1K ohm
R170	06S64995F53	1K ohm
R171	06S64995F53	1K ohm
R172	06S64995F53	1K ohm
R173	06S64995F41	330 ohm
R179	06S64995F63	2.7K ohm
R180	06S64995F77	10K ohm
R181	06S64995F85	22K ohm
R188	06S64995F65	3.3K ohm
R189	06S64996F18	470K ohm
R190	06S64995F93	47K ohm
R192	06S64995F77	10K ohm
R194	06S64995F53	1K ohm
R195	06S64995F53	1K ohm
R196	06S64995F45	470 ohm
R217	06S64995F60	2K ohm

Symbol No.	Part No.	Description
R218	06S64995F60	2K ohm
R225	06S64995F93	47K ohm
R226	06S64995F93	47K ohm
R227	06S64995F21	47 ohm
R228	06S64995F21	47 ohm
R501	06S64995F37	220 ohm
R505	06S64995F93	47K ohm
R506	06S64995F43	390 ohm
R507	06S64995F83	18K ohm
R508	06S64995F83	18K ohm
R509	06S64995F89	33K ohm
R510	06S64995F45	470 ohm
R511	06S64995F89	33K ohm
R512	06S64995F93	47K ohm
R513	06S64995F77	10K ohm
R514	06S64995F77	10K ohm
R533	06S64995F85	22K ohm
R534	06S64995F85	22K ohm
R535	06S64995F77	10K ohm
R536	06S64995F93	47K ohm
R541	06S64995F93	47K ohm
R542	06S64995F37	220 ohm
R550	06S64995F77	10K ohm
R603	06S64996F02	100K ohm
R604	06S64995F93	47K ohm
R801	06S64995F74	7.5K ohm
R802	06S64995F81	15K ohm
R803	06T70072F45	470 ohm 1/4W
R804	06T70072F45	470 ohm 1/4W
R805	06S64995F89	33K ohm
R806	06S64995F73	6.8K ohm
R807	06S64995F93	47K ohm
R812	06T70072F13	22 ohm 1/4W
VR101	18T91059F20	Variable, 150K ohm
VR102	18T45241W14	Variable, 15K ohm
VR103	18T45241W09	Variable, 2.2K ohm

Connector P. C. Board

IC

IC701	51T45264W01	TOTX193K

Symbol No.	Part No.	Description
Capacitors		
C205	08S65128F35	CP., 100pF
C840	08S53332F57	CP., 0.1μF
Resistors (All resistors are chip 1/4W ± 5% unless otherwise noted.)		
R229	06T70072F05	10 ohm
R230	06T70072F05	10 ohm
R840	06S64995F75	8.2K ohm 1/10W
Switch P. C. Board		
LED's		
LD401	48T16477W01	BG1204W (GRN)
LD402	48T16477W01	BG1204W (GRN)
Switch		
S401	40T35140W22	Tact, SKQDAB (EJECT)
Resistors (All resistors are chip 1/10W ± 5% unless otherwise noted.)		
R401	06S64995F36	200 ohm
R402	06S64995F36	200 ohm
Miscellaneous		
ET801	01T15719W10	Assy., DIN Connector (8P)
or	01T45051W02	Assy., DIN Connector (8P)
or	01T45595W01	Assy., DIN Connector (8P)
HD101	88T15309W01	Pick-Up Unit, SF-87.5
LD101	48T16057W01	LED, AN501 (RED)

Symbol No.	Part No.	Description
LD102	48T16057W01	LED, AN501 (RED)
LD103	48T16057W01	LED, AN501 (RED)
M101	59T90879F01	Motor, Load 6V-260mA (LOADING)
M102	59T15716W01	Motor, Load 8V-330mA (ELEVATOR)
M103	59T52973F03	Motor, Servo 6V-210mA (SLED)
PI101	48T15722W01	Photo Interrupt, GP1S51
PT101	48T15938W03	Transistor, Photo PS5022-B1
PT102	48T15938W03	Transistor, Photo PS5022-B1
PT103	48T15938W02	Transistor, Photo PS5022
Q1003	48T51089F04	Transistor, 2SA937
S102	40T71025F01	Switch, Detector (LOADING)
S103	40T71025F01	Switch, Detector (HOME POSITION)
S104	40T71025F01	Switch, Detector (MAGAZINE)
S105	40T71025F01	Switch, Detector (LIMIT)

Packing Assembly Parts List

Symbol No.		Part No.	Description
	101	56S41054W13	Carton, Packing (Individual)
	102	56D41454W01	Tray, Packing (Top)
	103	56D41454W02	Tray, Packing (Bottom)
	104	01V43800W89	Assy., kit Installation
○	105	68P40870W77	Owner's Manual
△	105	68P40870W78	Owner's Manual
●	105	68P40870W77	Owner's Manual
	106	01T45053W01	Assy., DIN Connector 5m
	or	01T15904W02	Assy., DIN Connector 5m
	or	01T45150W01	Assy., DIN Connector 5m
	107	56A67299F02	Sack, Polyethylene

Symbol No.	Part No.	Description

Notes : ○ : For North American Model only, △ : For General Foreign Model only,
● : For Canadian Model only, Others : Common.

Packing Method View

- Refer to the Service Manual · 5957 (68P32133W02).

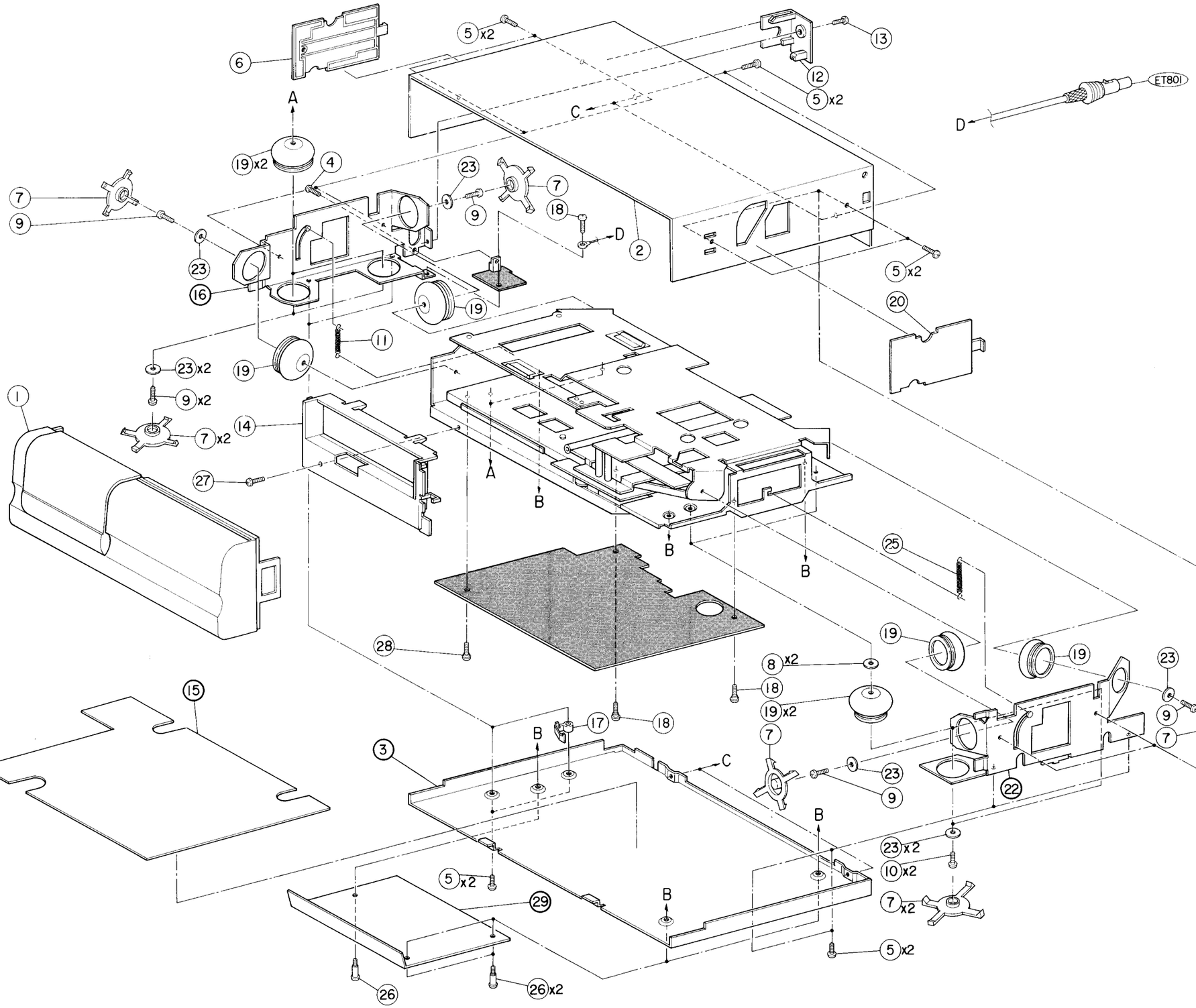
Cabinet Assembly Parts List

Note : The parts without parts list are not supplied.

Symbol No.	Index	Part No.	Description
1	3-B	13T45532W01	Assy., Front Escutcheon
2	2-D	15D41083W02	Cover, Top
4	2-C	03S70494F10	Screw, Pan (M2.6×10)
5		03S38013W12	Screw, Bind (M2.6×4)
6	1-B	15B41292W01	Cover, Plate (L)
7		15B40809W01	Holder, Damper (C)
8	4-E	34A48026W01	Washer, Damper
9		03A48040W01	Screw, Damper (M2.6×3)
10	5-E	03A48040W02	Screw, Damper (M2.6×6)
11	3-C	41A41238W01	Spring, Extension (L)
12	1-E	15A41448W01	Cover, Connector
13	1-E	03S44205G34	Screw, Pan (M2.6×5)
14	3-C	64B41449W01	Assy., Plate Inner
17	4-D	15A41116W01	Holder, Wire
18		03S44205G48	Screw, Pan (M2.6×5)
19		75B48059W01	Damper, DR (D)
20	2-F	15B41293W01	Cover, Plate (R)
23		04S40075G60	Washer, Flat Metal (M3.2)
25	3-E	41A41238W02	Spring, Extension (R)
26		03A48046W01	Screw, Transport (M4×22.5)
27	3-B	03S44205G98	Screw, Pan (M2.6×5)
28	4-C	03A38056W01	Screw, Special (M2.6×6)

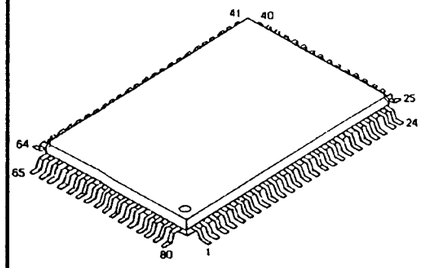
Symbol No.	Index	Part No.	Description

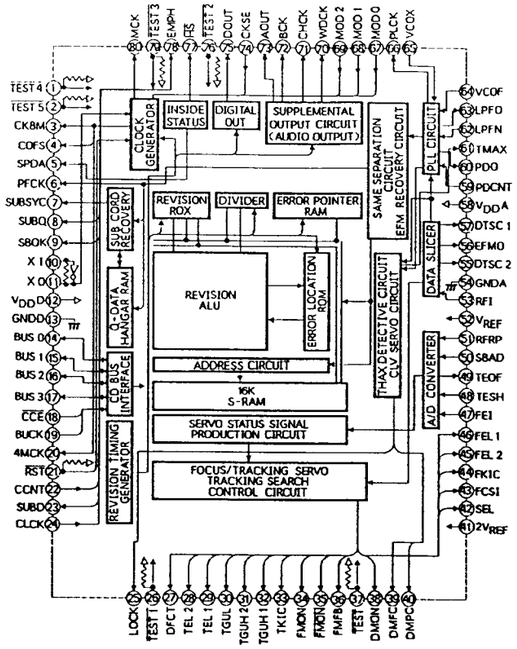
Exploded View (Cabinet)



Semi-Conductor Lead Identifications

TC9236AF : IC101





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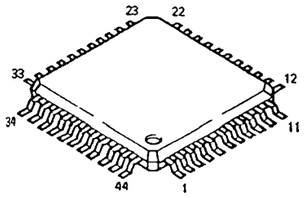

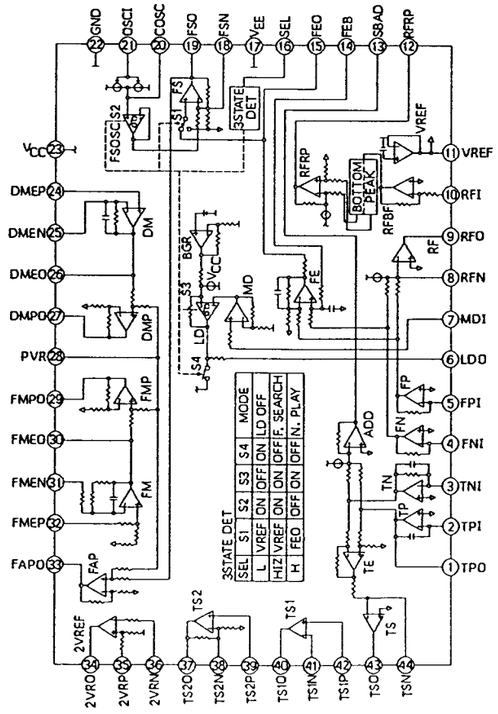

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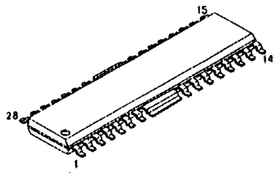

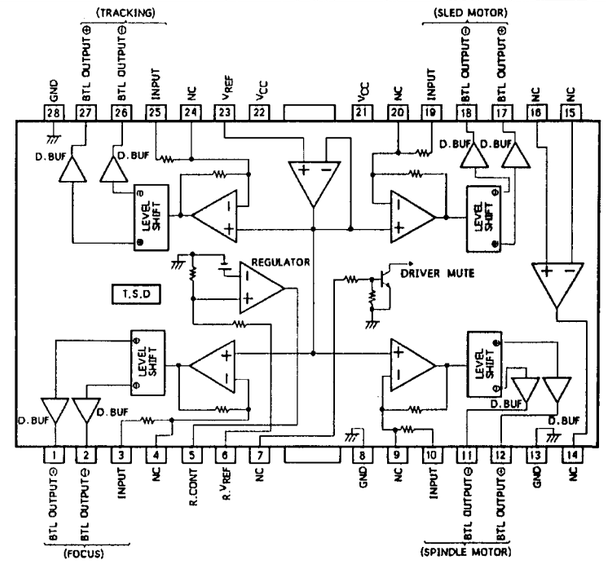

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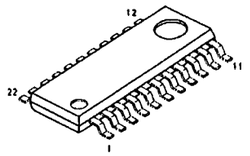

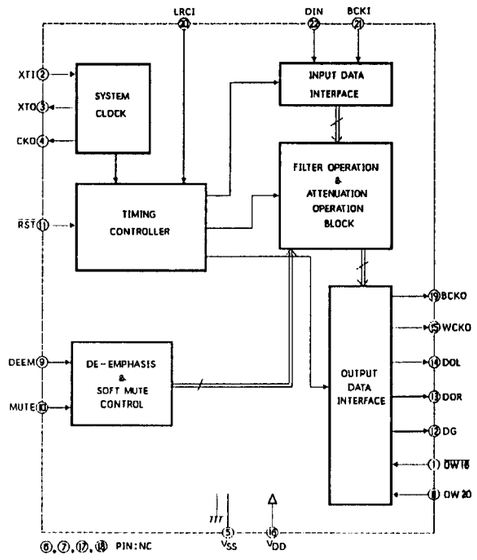

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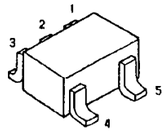

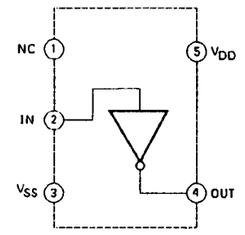

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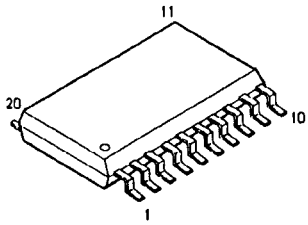

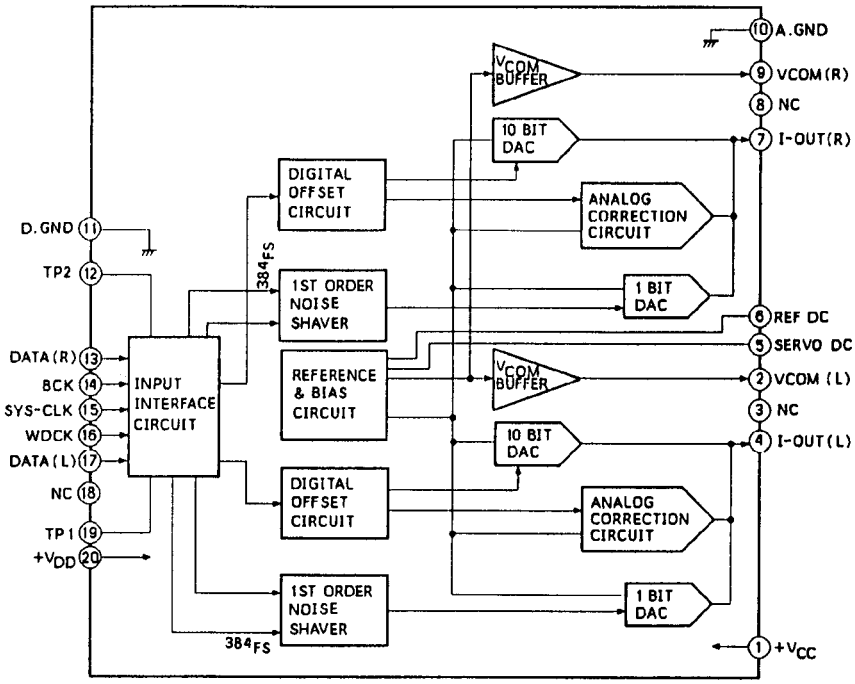

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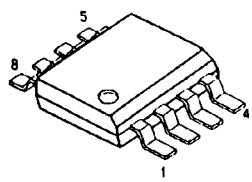
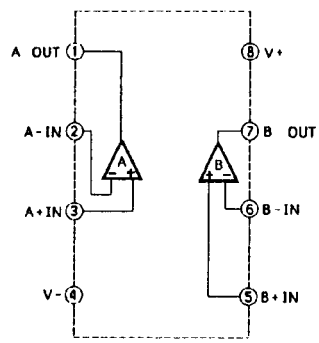
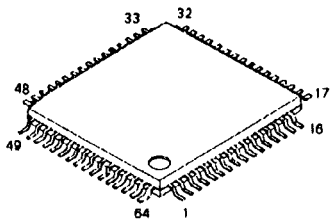


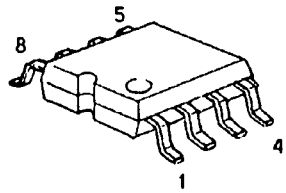


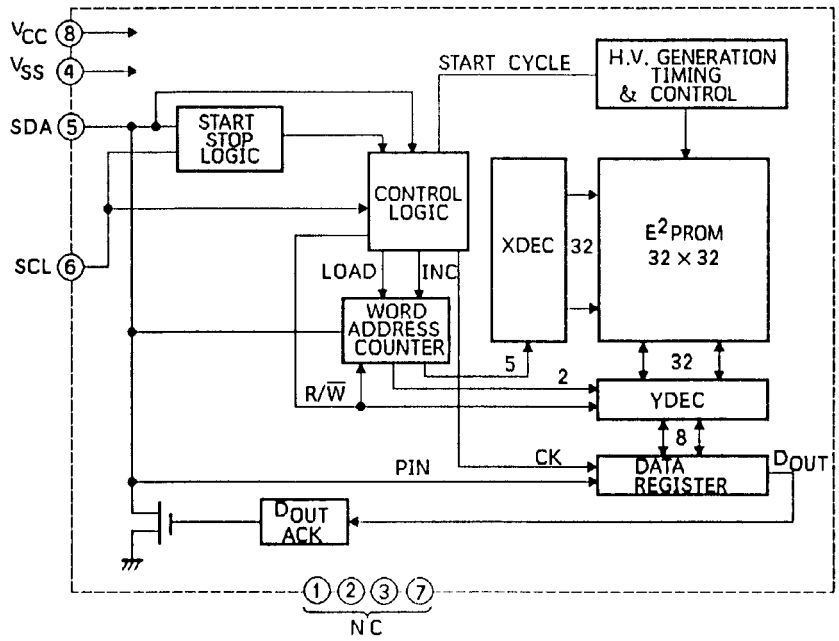
45552W02 : IC501



PIN NO.	CODE ADDRESS	I/O	PIN NO.	CODE ADDRESS	I/O	PIN NO.	CODE ADDRESS	I/O
1	SCL	I	23	$\overline{D-OUT}$	O	45	GND	—
2	SDA	I/O	24	GND	—	46	A·V_{SS}	—
3	NC	—	25	$\overline{LMT-SW}$	I	47	HI-TEMP	I
4	NC	—	26	LOCK	I	48	LO-TEMP	I
5	NC	—	27	BUS 0	I/O	49	DISC-P	I
6	NC	—	28	BUS 1	I/O	50	LOAD-P	I
7	NC	—	29	BUS 2	I/O	51	DISC-OK	I
8	NC	—	30	BUS 3	I/O	52	DISC-NO	I
9	GND	—	31	BUCK	O	53	GND	—
10	EJT-LED	O	32	$\overline{CCE}$	O	54	GND	—
11	NC	—	33	BUS-OUT	O	55	A·V_{DD}	—
12	A-MUTE	O	34	NC	—	56	A·V_{REF}	I
13	LOD M+	O	35	RESET	I	57	NC	—
14	LOD M−	O	36	BUS-IN	I	58	NC	—
15	ELV M+	O	37	BATT	I	59	NC	—
16	ELV M−	O	38	ACC	I	60	NC	—
17	V-CONT	O	39	$\overline{EJT-KEY}$	I	61	NC	—
18	F-CONT	O	40	V_{DD}	—	62	NC	—
19	$\overline{LS-RST}$	O	41	X2	—	63	NC	—
20	$\overline{LOAD-SW}$	I	42	X1	—	64	NC	—
21	$\overline{HOME}$	I	43	GND	—			
22	MAG-SW	I	44	NC	—			

X24LC01SI : IC502





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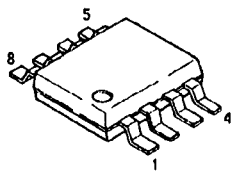

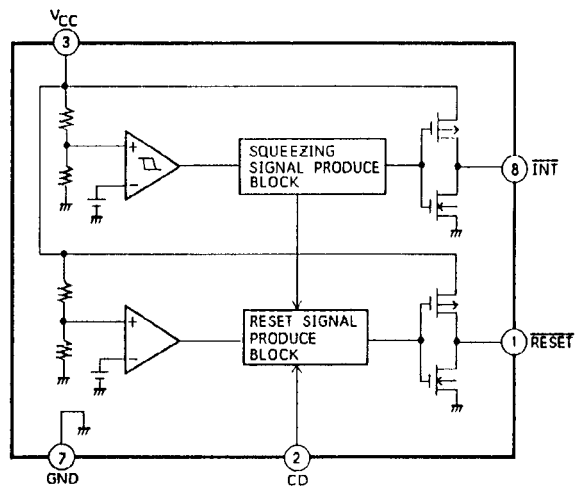

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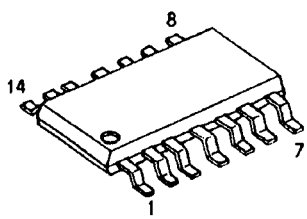
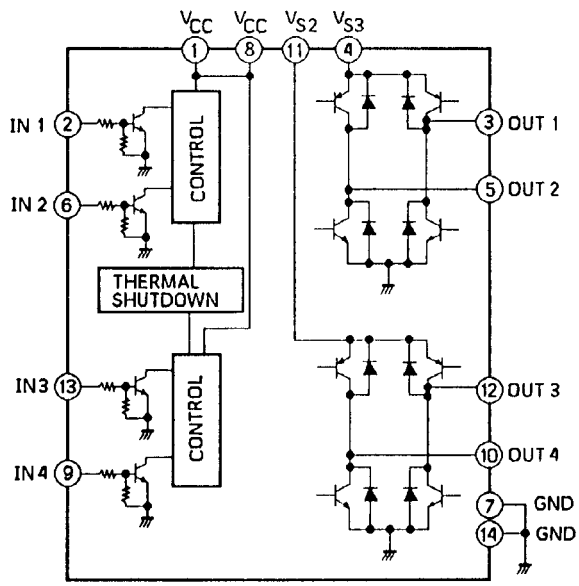
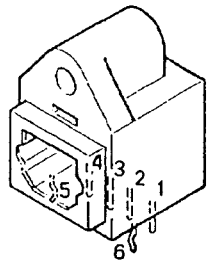
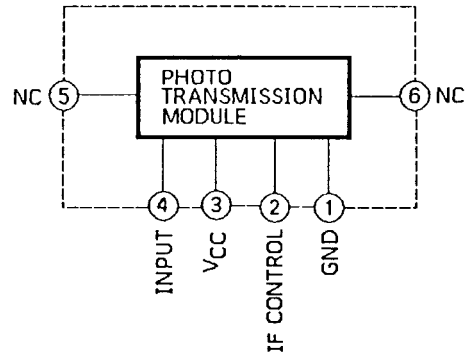




TOTX193K : IC701





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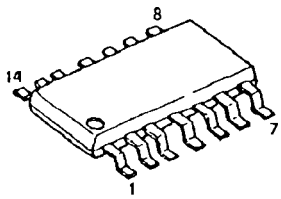
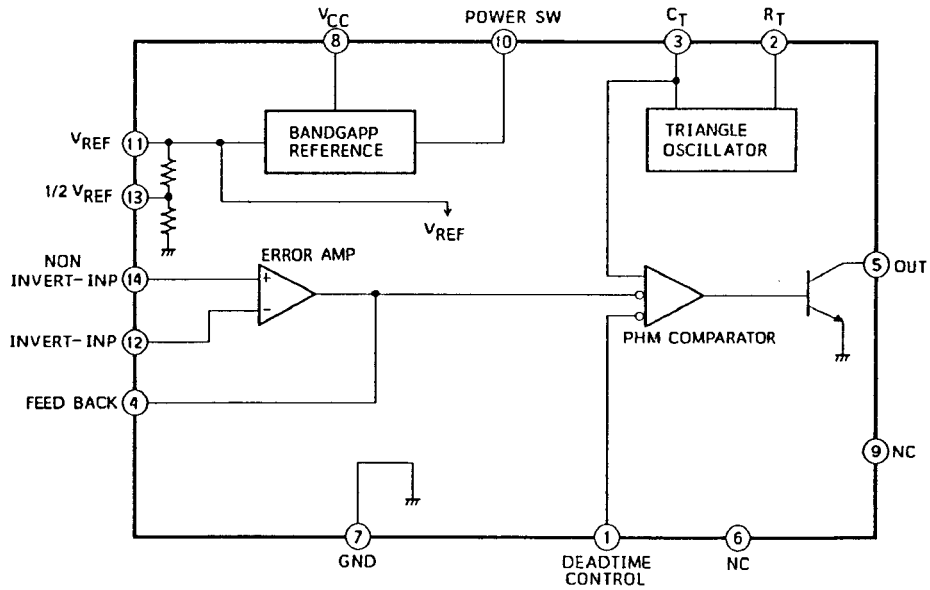


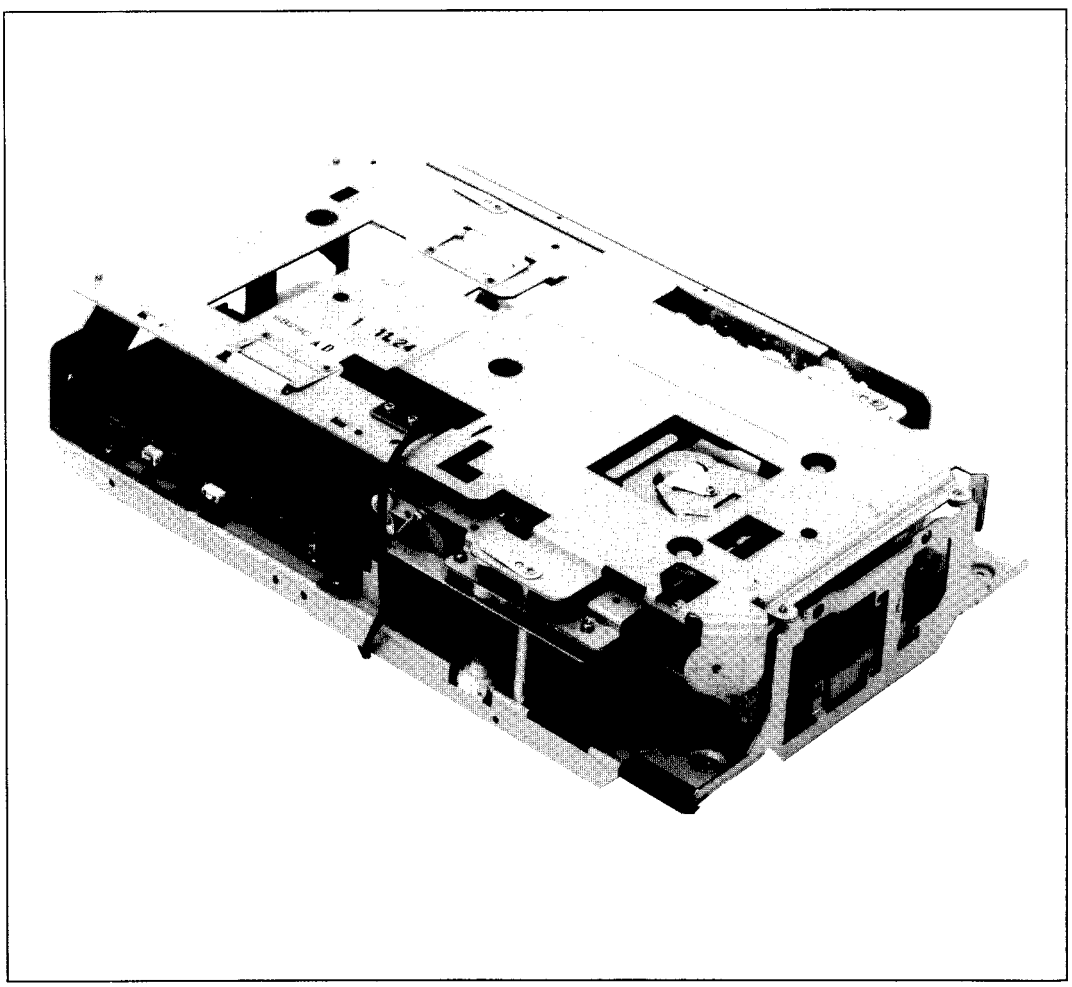


ALPINE®

SERVICE MANUAL

CD Remote Changer Mechanism
CD Shuttle

ADDENDUM & REVISED (II)



DR SERIES

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Disassembly Instructions

<DR24A010 Model Only>

1. Removal of Pick-up Unit

(1)Remove three screws marked "○" as shown in Figure 1.

2. Removal of Sled Motor

(1) After removal of the pick-up unit, remove the motor bracket with sled motor by removing the solder (A) and two screws marked "×" as shown in Figure 1.

(2) Remove the solder (B) and a screw marked "□" as shown in Figure 1.

3. Removal of Head Unit

(1) After removal of the motor bracket, remove the shaft bracket and the screw bracket by removing two screws marked "△" as shown in Figure 1.

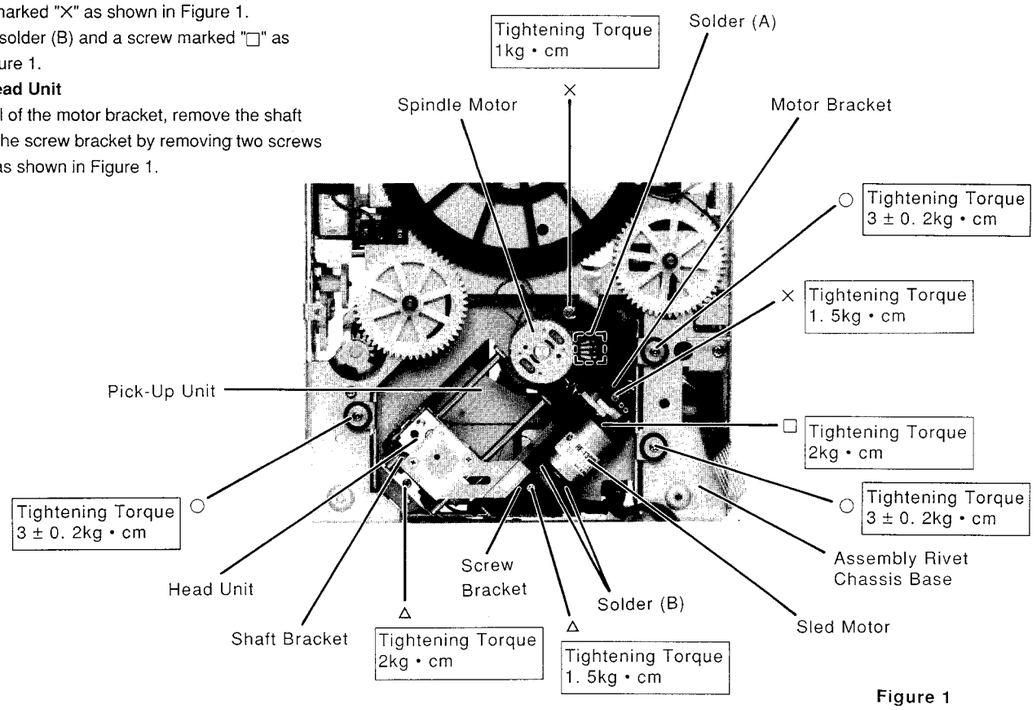

Figure 1

4. Removal of LED P. C. Board

(1) Remove two screws marked "●" as shown in Figure 2.

5. Removal of Switch P.C. Board

(1) Remove a screw marked "▲" as shown in Figure 2.

(2) Remove the hook (A) as shown in Figure 2.

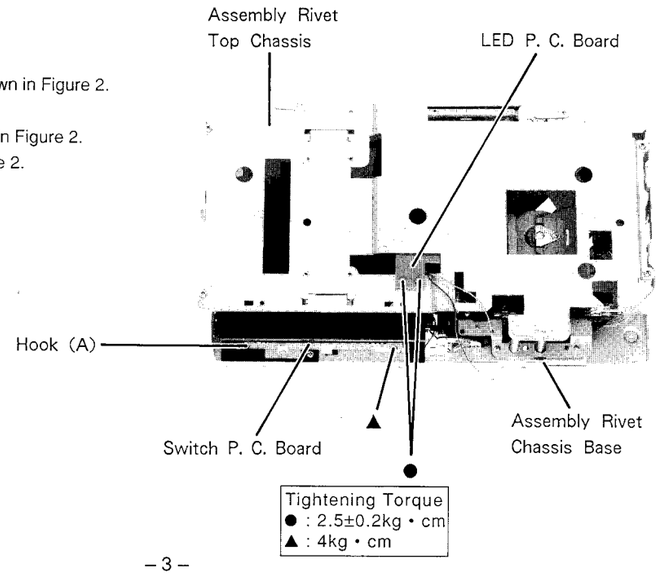

Figure 2

6. Removal of Assembly Rivet Chassis CR

(1) After Remove seven screws marked "∞", remove the Assembly Rivet Top Chassis and the Assembly Rivet Chassis Base as shown in Figure 3.

7. Removal of Photo P. C. Board

(1) After picking up the Assembly Rivet Chassis CR, remove the solder (C) as shown in Figure 4.

(2) Remove a screw marked "■" as shown in Figure 4.

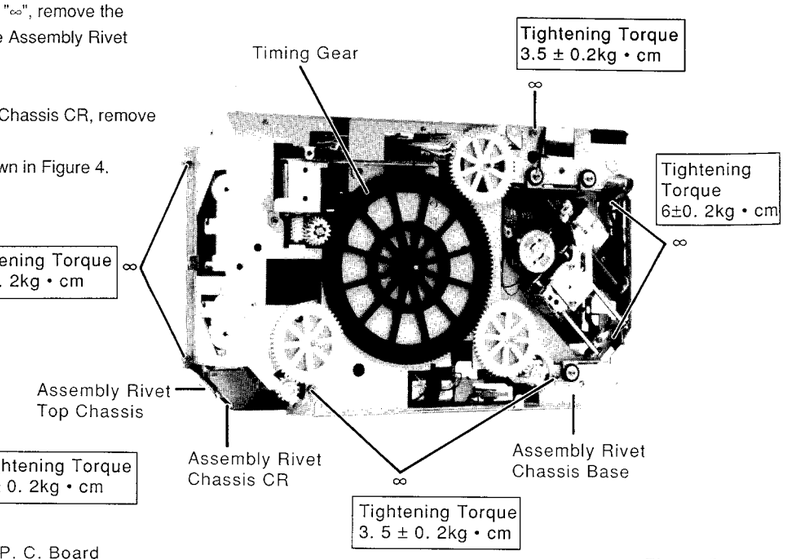

Figure 3

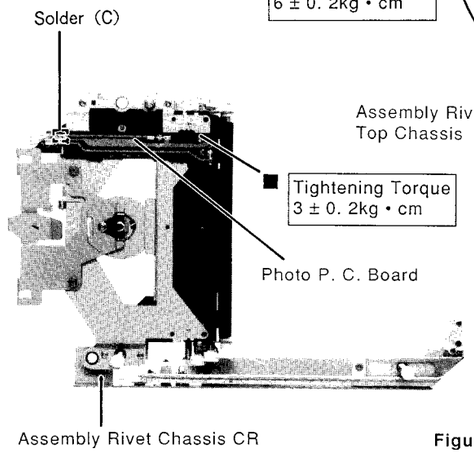

Figure 4

8. Removal of Sensor P. C. Board

(1) After removal of the Assembly Rivet Chassis CR, remove the solder (D) and (E) as shown in Figure 5.

(2) Remove two screws marked "☆" as shown in Figure 5.

9. Removal of Loading Motor

(1) After removal of the Assembly Rivet Chassis CR, remove the solder (E) as shown in Figure 5.

(2) Remove two screws marked "★" as shown in Figure 5.

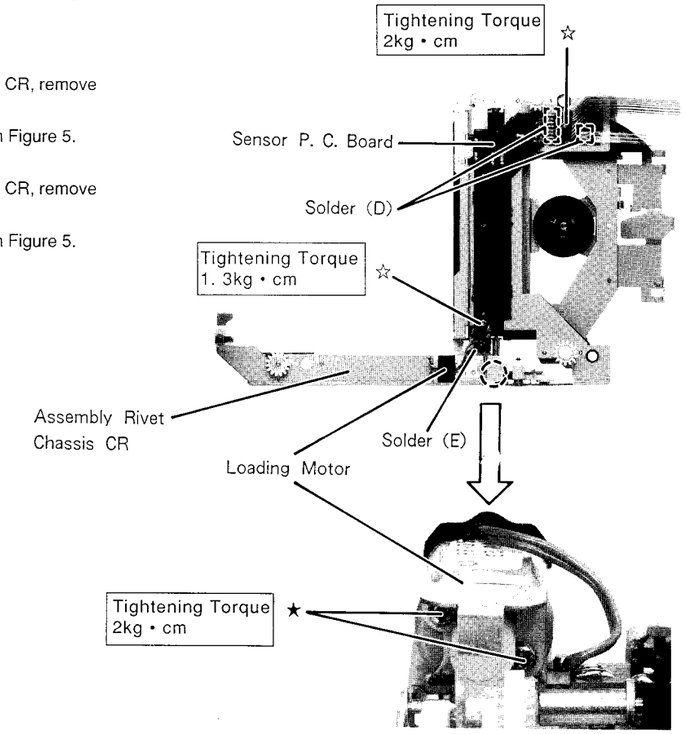

Figure 5

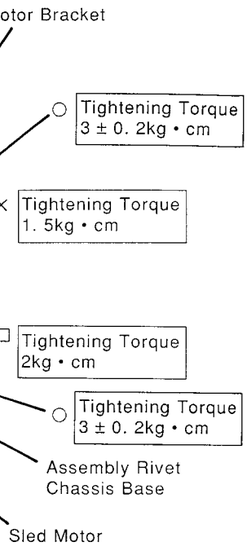

Figure 1

Figure 2

6. Removal of Assembly Rivet Chassis CR

(1) After Remove seven screws marked "∞", remove the Assembly Rivet Top Chassis and the Assembly Rivet Chassis Base as shown in Figure 3.

7. Removal of Photo P. C. Board

(1) After picking up the Assembly Rivet Chassis CR, remove the solder (C) as shown in Figure 4.

(2) Remove a screw marked "■" as shown in Figure 4.

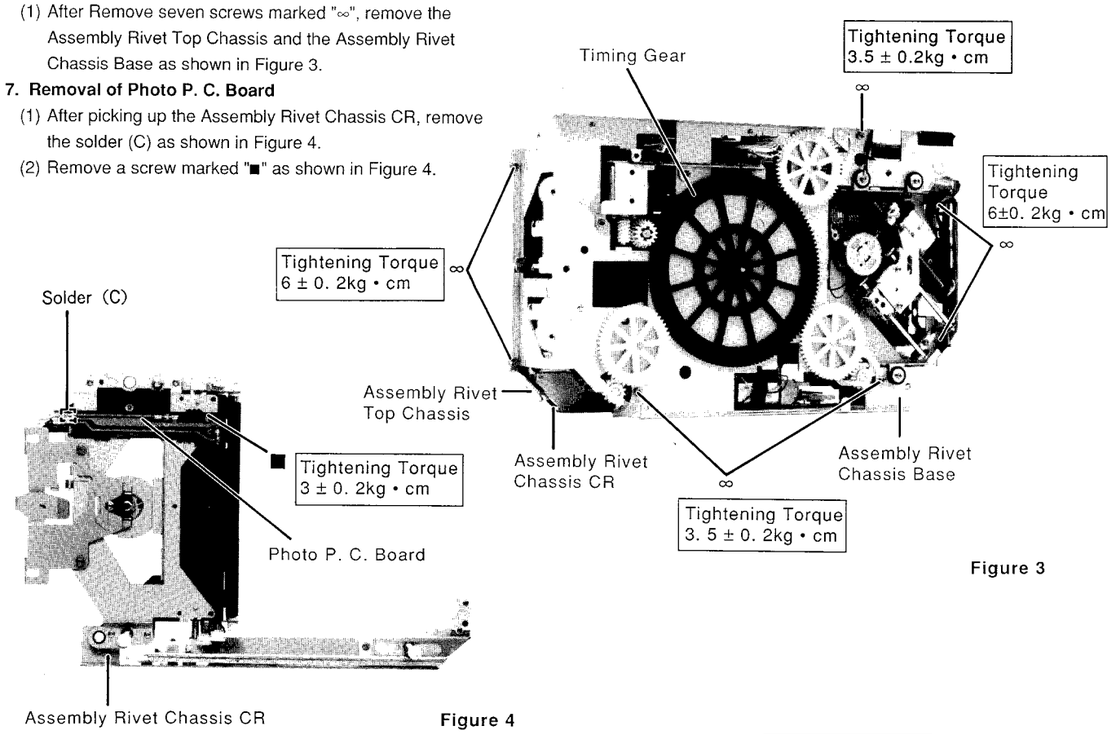

Figure 3

Figure 4

8. Removal of Sensor P. C. Board

(1) After removal of the Assembly Rivet Chassis CR, remove the solder (D) and (E) as shown in Figure 5.

(2) Remove two screws marked "☆" as shown in Figure 5.

9. Removal of Loading Motor

(1) After removal of the Assembly Rivet Chassis CR, remove the solder (E) as shown in Figure 5.

(2) Remove two screws marked "★" as shown in Figure 5.

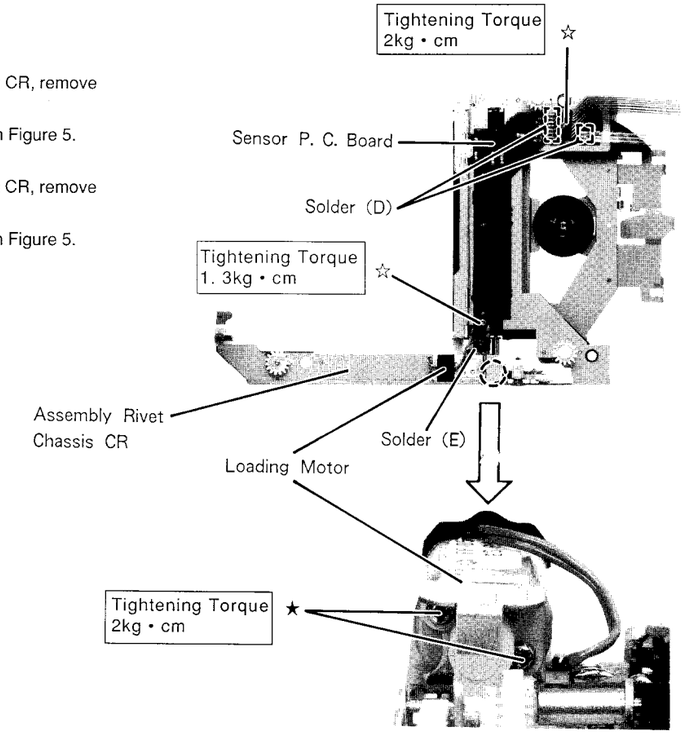

Figure 5

10. Removal of Elevator Motor

(1) After removal of the Assembly Rivet Chassis CR, remove the timing gear by removing the washer (A) as shown in Figure 6.

(2) Remove the Assembly Rivet Bracket Motor by removing two screws marked "◇" as shown in Figure 6.

(3) Remove the solder (F) as shown in Figure 7.

(4) Remove tow screws marked "◆" as shown in Figure 6.

11. Removal of Interrupt P. C. Board

(1) After removal of the Assembly Rivet Bracket Motor, remove the solder (F) as shown in Figure 7.

(2) Remove two screws marked "#" as shown in Figure 7.

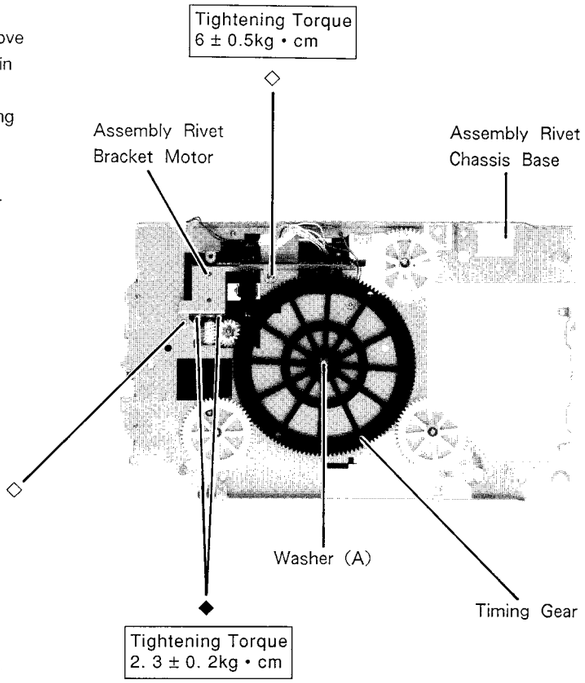

Figure 6

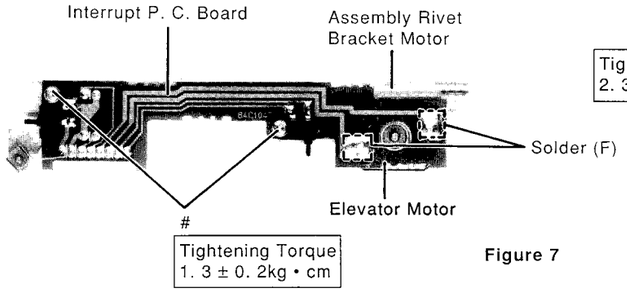

Figure 7

12. Removal of Magazine Photo P. C. Board

(1) After removal of the Assembly Rivet Chassis CR, remove the Assembly Rivet Chassis Magazine by removing three screws marked "※" as shown in Figure 8.

(2) Remove two screws marked "◎" as shown in Figure 8.

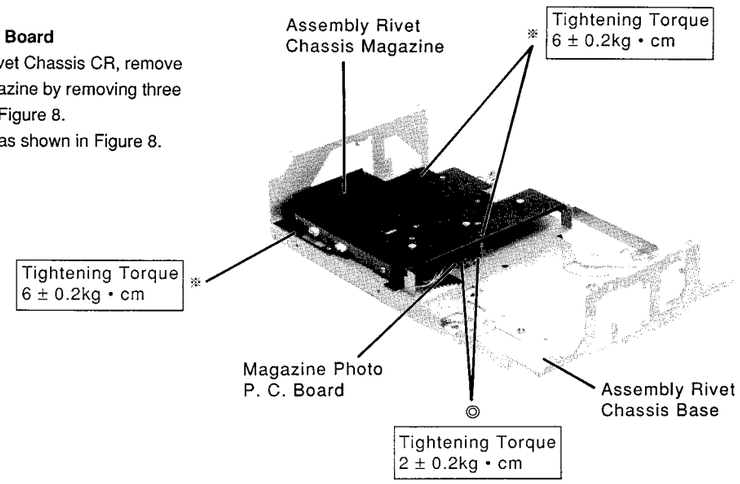

Figure 8

Disassembly Instructions

<DR24A020/02A/030/040 Model Only>

1. Removal of Pick-Up Unit

(1) Remove three screws marked "○" as shown in Figure 9.

2. Removal of Sled Motor

(1) After removal of the pick-up unit, remove the motor bracket with sled motor by removing the solder (A) and two screws marked "×" as shown in Figure 9.

(2) Remove the solder (B) and a screw marked "□" as shown in Figure 9.

3. Removal of Head Unit <DR24A020 Model Only>

(1) After removal of the motor bracket, remove the shaft bracket and the screw bracket by removing two screws marked "△" as shown in Figure 9.

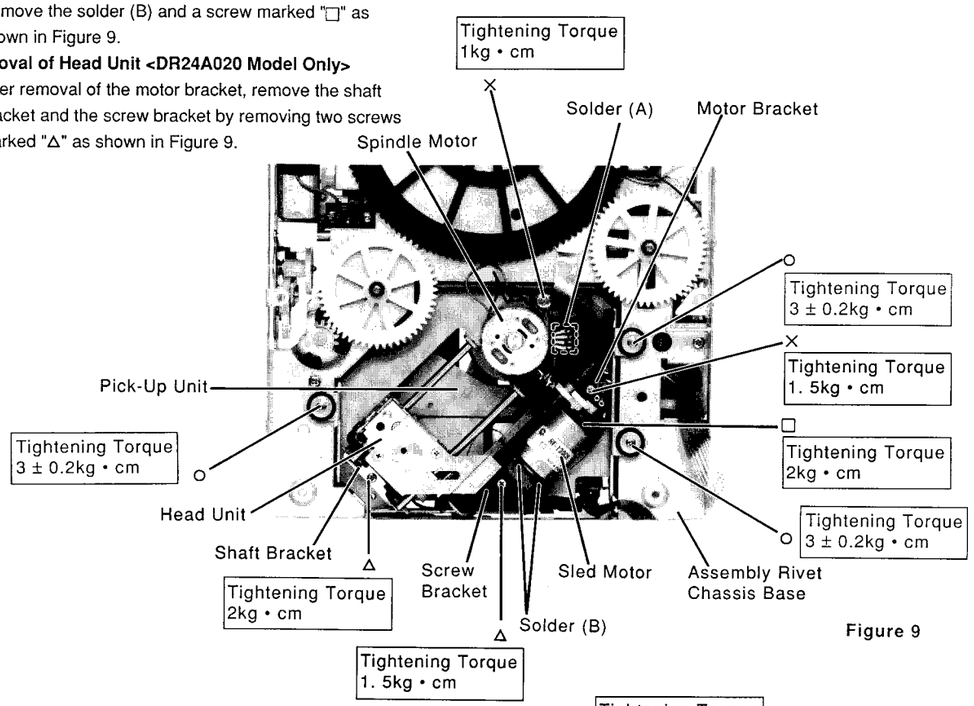

Figure 9

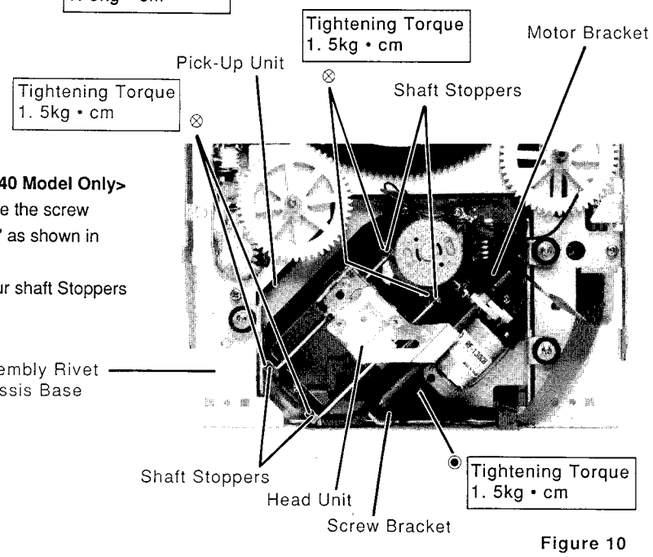

Figure 10

3. Removal of Head Unit <DR24A02A/030/040 Model Only>

(1) After removal of the motor bracket remove the screw bracket by removing a screw marked "◉" as shown in Figure 10.

(2) Remove four screws marked "⊗" and four shaft Stoppers as shown in Figure 10.

4. Removal of Magazine Photo

(1) Remove a screw marked "●" as shown in Figure 11.

5. Removal of Switch P. C. Board

(1) Remove a screw marked "▲" as shown in Figure 11.

(2) Remove the Hook (A) as shown in Figure 11.

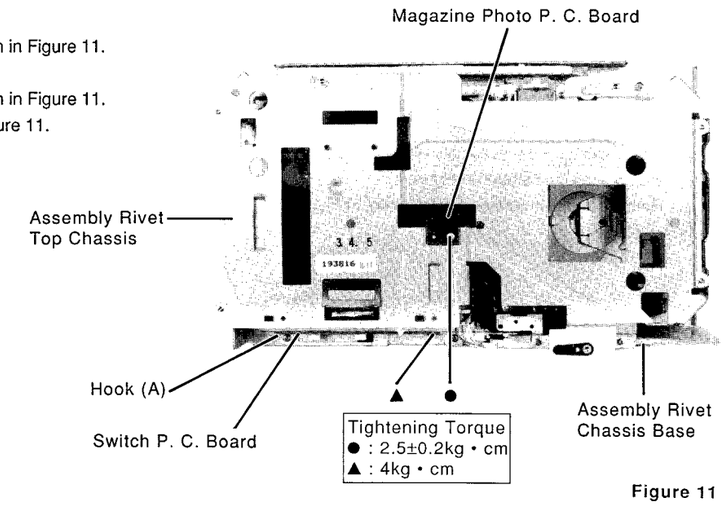

Figure 11

6. Removal of Assembly Rivet Chassis CR

(1) After remove seven screws marked "∞", remove the Assembly Rivet Top Chassis and the Assembly Rivet Chassis Base as shown in Figure 12.

7. Removal of LED P. C. Board

(1) After picking up the Assembly Rivet Chassis CR, remove the solder (C) as shown in Figure 13.

(2) Remove a screw marked "■" as shown in Figure 13.

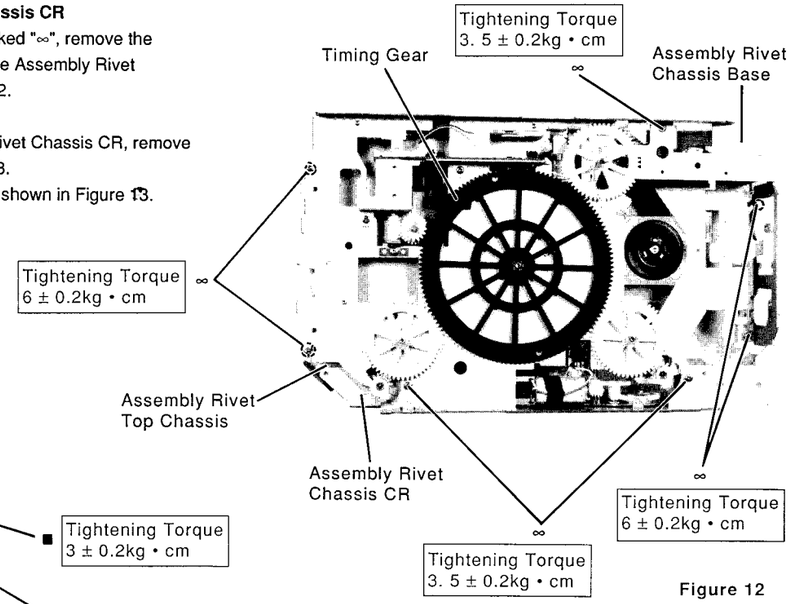

Figure 12

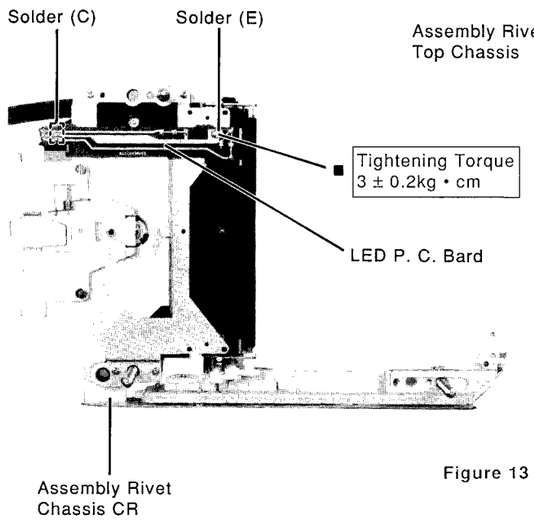

Figure 13

8. Removal

(1) After rem
the solde

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"☆" as s

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9. Removal

(1) After rem
the solde

(2) Remove

10. Removal

(1) After rem
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Figure 1

(1) After rem
the timi
Figure 1

(2) Remove
two scre

(3) Remove

(4) Remove

11. Removal

(1) After rem
remove

(2) Remove

Tightening T
1. 3 ± 0.2kg

#

Interrupt P. C.

4. Removal of Magazine Photo

(1) Remove a screw marked "●" as shown in Figure 11.

5. Removal of Switch P. C. Board

(1) Remove a screw marked "▲" as shown in Figure 11.

(2) Remove the Hook (A) as shown in Figure 11.

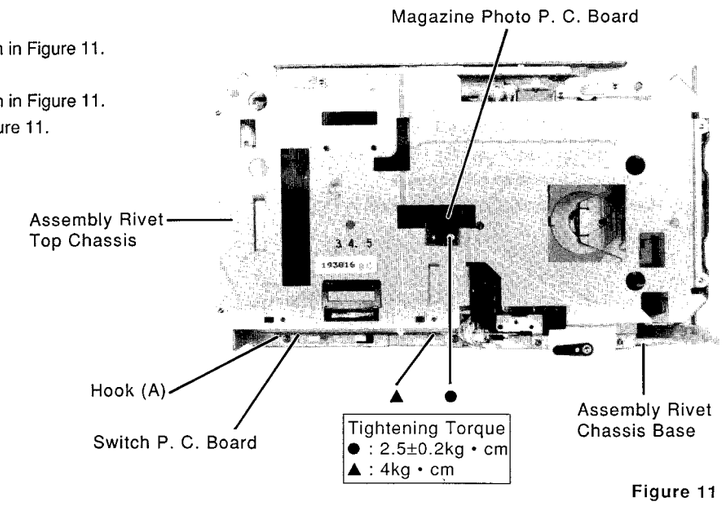


Figure 11

6. Removal of Assembly Rivet Chassis CR

(1) After remove seven screws marked "∞", remove the Assembly Rivet Top Chassis and the Assembly Rivet Chassis Base as shown in Figure 12.

7. Removal of LED P. C. Board

(1) After picking up the Assembly Rivet Chassis CR, remove the solder (C) as shown in Figure 13.

(2) Remove a screw marked "■" as shown in Figure 13.

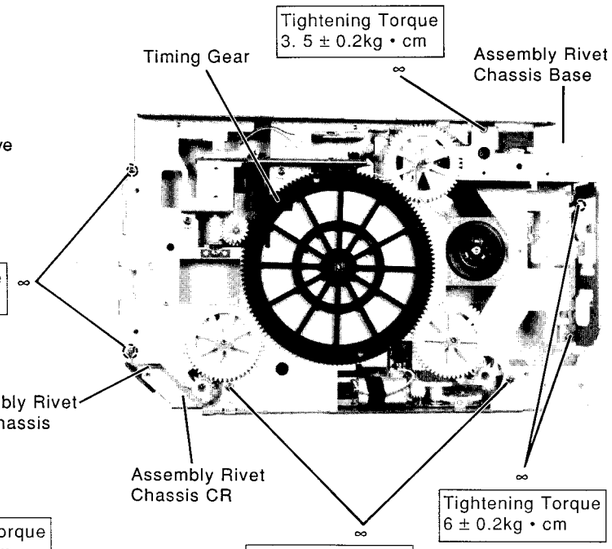


Figure 12

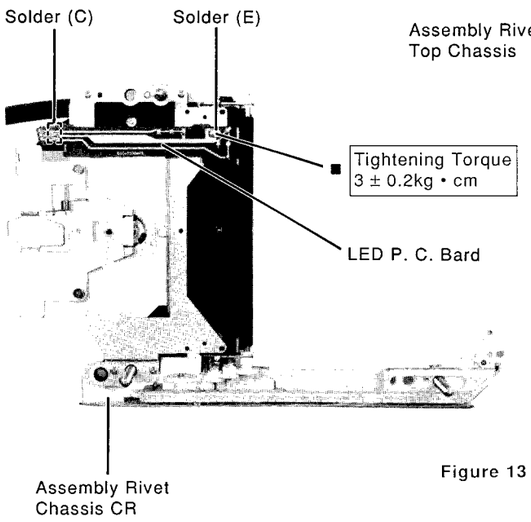


Figure 13

8. Removal of Sensor P. C. Board

(1) After removal of the Assembly Rivet Chassis CR, remove the solder (E) and (F) as shown in Figure 14.

(2) Remove Elevator Screw Shaft and two screws marked "☆" as shown in Figure 14.

Note: When removing the sensor P. C. Board, be careful not to damage the Photo-Transistor.

9. Removal of Loading Motor

(1) After removal of the Assembly Rivet Chassis CR, remove the solder (F) as shown in Figure 14.

(2) Remove two screws marked "★" as shown in Figure 14.

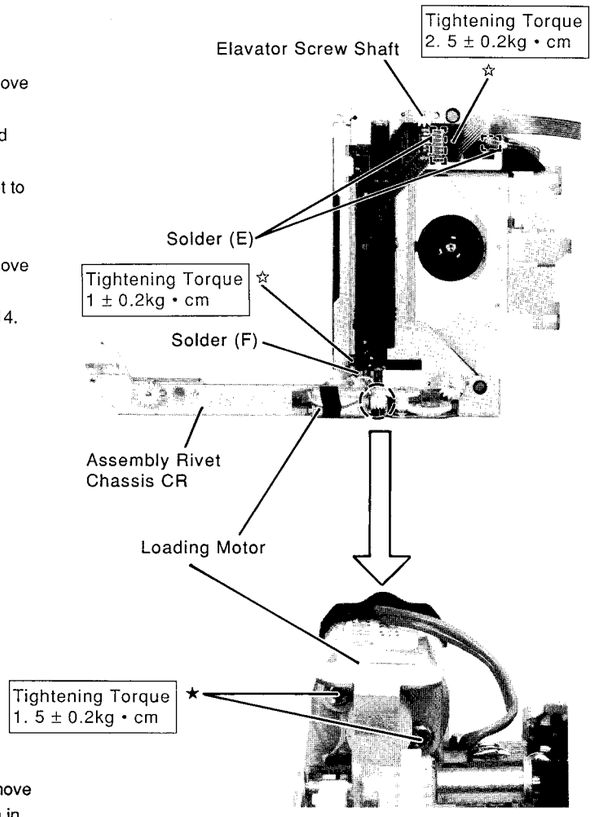


Figure 14

10. Removal of Elevator Motor

(1) After removal of the Assembly Rivet Chassis CR, remove the timing gear by removing the washer (A) as shown in Figure 15. **<DR24A020/02A Model Only>**

(1) After removal of the Assembly Rivet Chassis CR, remove the timing gear by removing the Ring "E" as shown in Figure 15. **<DR24A030/040 Model Only>**

(2) Remove the Assembly Rivet Bracket Motor by removing two screws marked "◇" as shown in Figure 15.

(3) Remove the solder (G) as shown in Figure 16.

(4) Remove two screws marked "◆" as shown in Figure 15.

11. Removal of Interrupt P. C. Board

(1) After removal of the Assembly Rivet Bracket Motor, remove the solder (G) as shown in Figure 16.

(2) Remove two screws marked "#" as shown in Figure16.

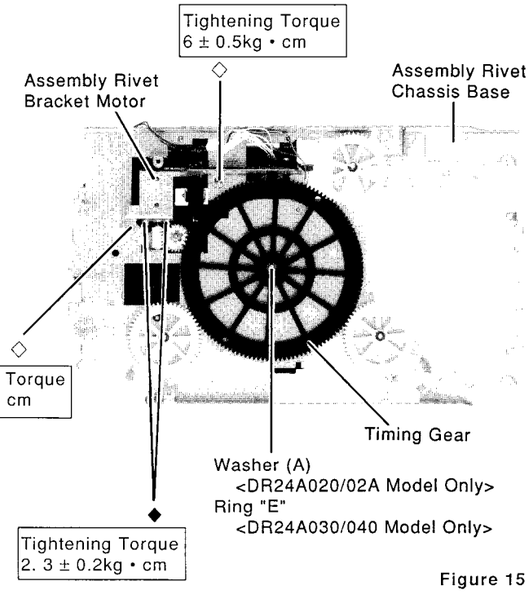


Figure 15

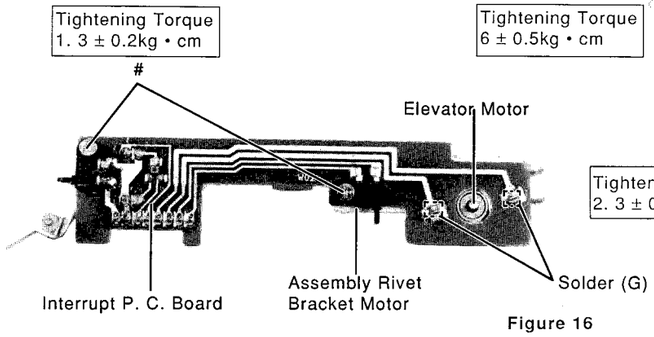


Figure 16

12. Removal of Magazine LED P. C. Board

(1) After removal of the Assembly Rivet Chassis CR, remove the Assembly Rivet Chassis Magazine by removing three screws marked "※" and the Hook (B) as shown in Figure 17.

(2) Remove a screw marked "◎" as shown in Figure 17.

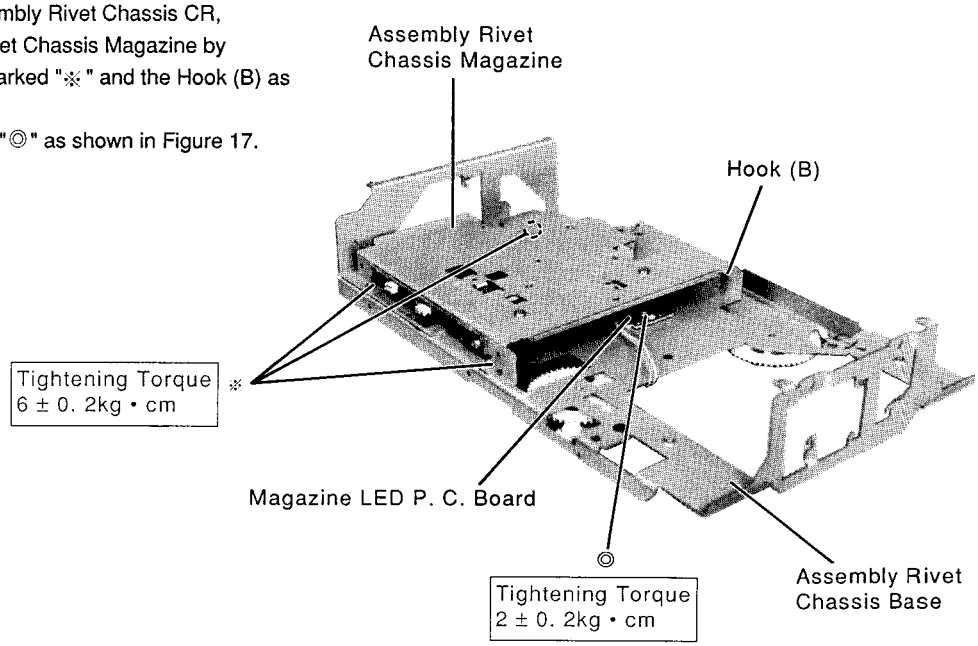


Figure 17

Adjusting method for Elevator Height

1. Remove two lock washers and a ring "E", than remove three gears (D).
2. Turn three gears (E) and move the CR chassis to F direction (to the position of CD magazine).
3. Insert the adjustment jig (☆) as shown in Figure 18 between the chassis and the CR chassis as shown in Figure 19.

* At the same time, insert the adjustment jig near each of three gears (E).

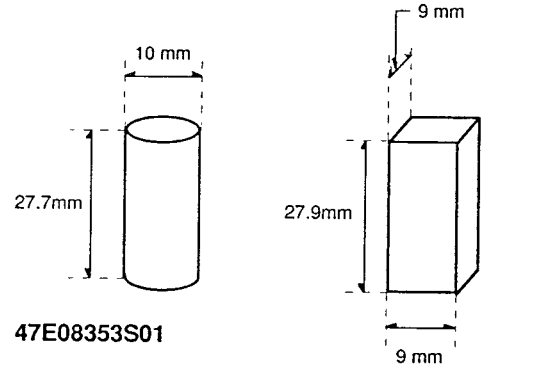
4. Adjust each of gears (E) to minimum gap and to getting smooth moving of each adjustment jig.
5. Adjust the H hole of timing gear to fit with the hole of chassis.
6. Mount three gears (D).

* At this time, pay attention that the position between the gear (E) adjusted and Timing gear does not make gap.

7. Fix three gears (D) with two lock washers and a ring "E".

(☆) : 47E08353S01 (DR24A010 Model Only)
01V00346S01 (DR24A020/02A/030/040 Model Only)

Adjustment Jig



(Three pieces are supplied.)

Figure 18

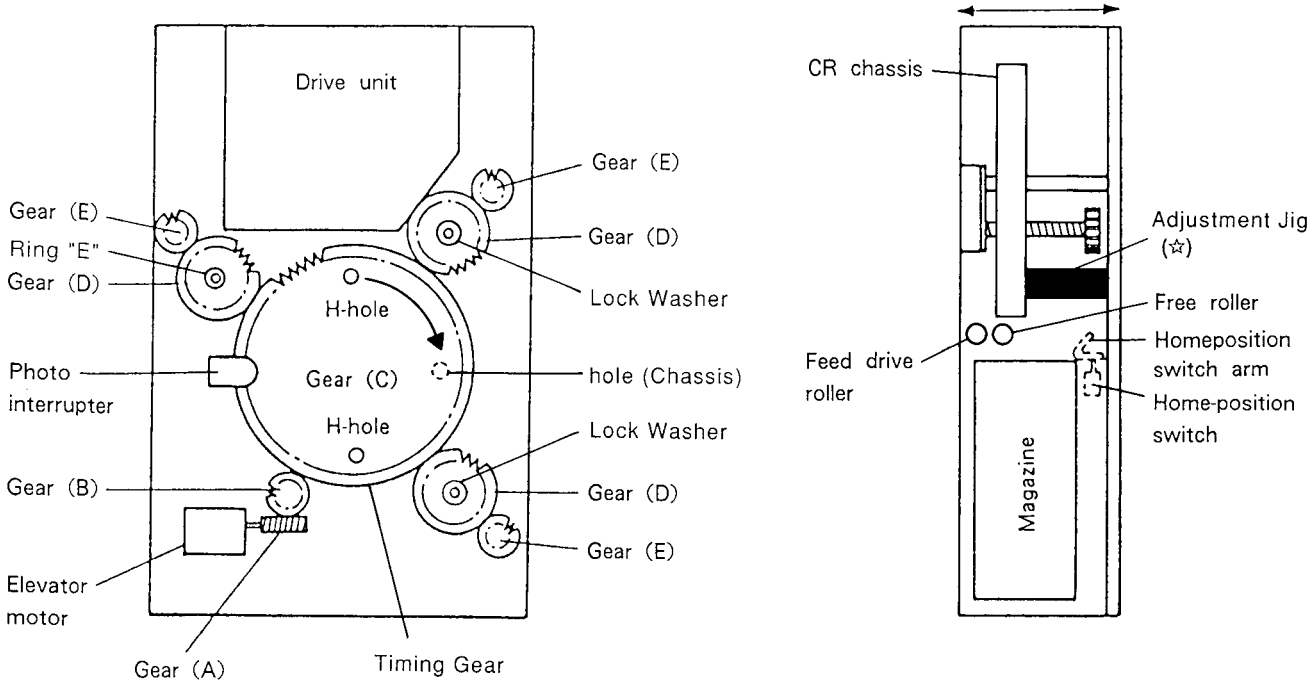


Figure 19

Mechanism Function Description

Function	Step	Description	Illustration
Magazine Insertion	①	When the magazine is inserted, the eject lever is pushed in.	Figure 20
	②	The eject lever causes the magazine lock arm to move.	
	③	The magazine lock arm causes the magazine to lock and the magazine lock switch to be switched on.	

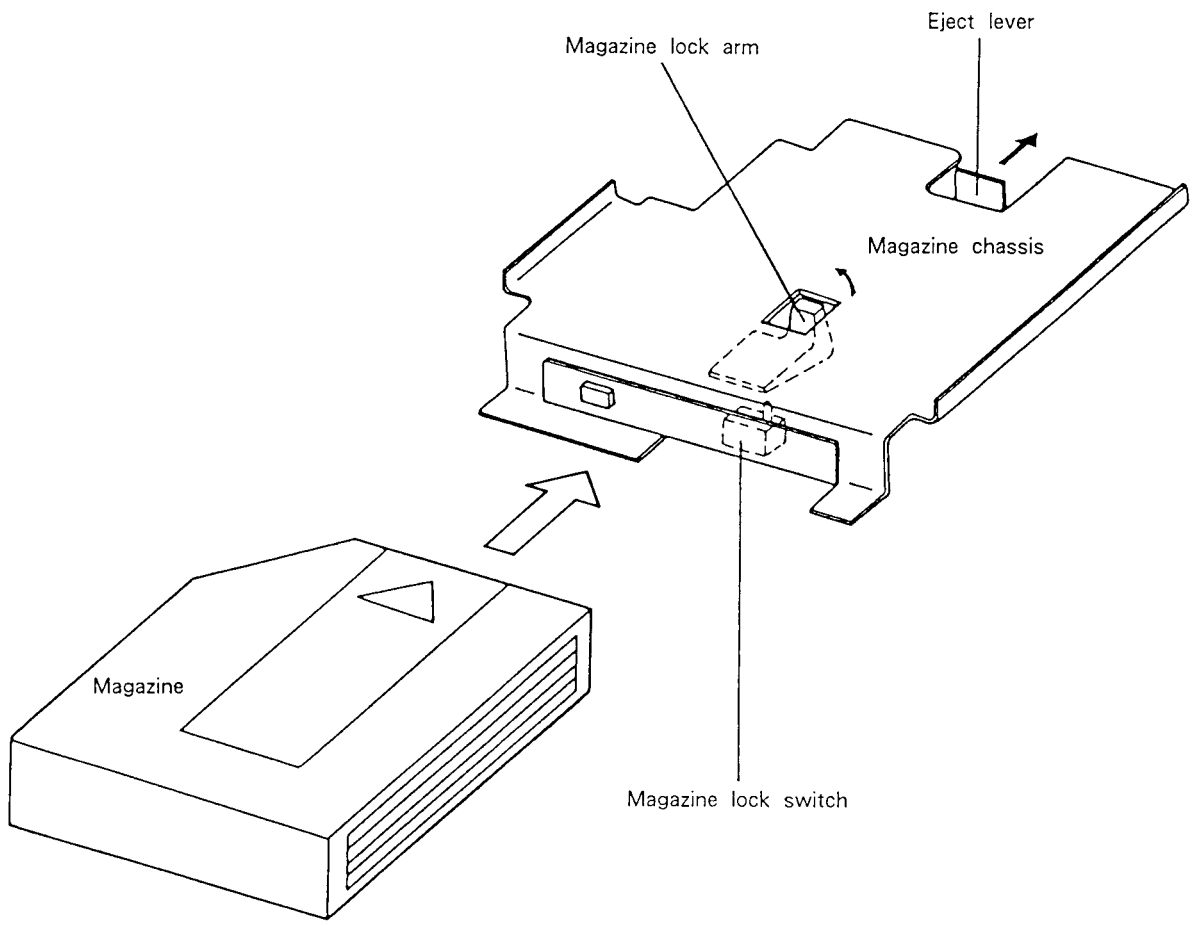


Figure 20

Function	Step	Description	Illustration
Disc Loading	①	The elevator motor rotates.	Figure 21
	②	The rotation is transmitted to gears (A), (B), (C), (D) and (E).	
	③	The CR chassis is moved in the (F) direction by rotation of gear (E).	
	④	The photo-interrupter counts the H-holes on gear (C) to control the movement distance of the CR chassis.	
	⑤	The CR chassis is stopped at the position of the first disc in the magazine. * For the 2nd through 6th discs the movement distance of the CR chassis is the only thing that changes : the operation is the same.	
	⑥	The loading motor rotates. (The loading motor can rotate forward and in reverse.)	
	⑦	The rotation is transmitted to gears (I), (J), (K) and (L).	
	⑧	Simultaneous with the action of Step (7), the rotation is transmitted to gears (I), (J), (M), (N) and (O).	
	⑨	The rotation of gear (L) causes the disc eject lever to make a back-and-forth movement in the (P) and (Q) directions.	
	⑩	The disc eject lever causes the disc to be ejected from the magazine.	
	⑪	Since gear (O) and the feed drive roller are on the same axle, the rotation of gear (O) will cause the feed drive roller to rotate.	Figure 22
	⑫	The disc is sandwiched between the feed drive roller and the free roller and the disc moves in the direction of the clamper.	
	⑬	Photosensors (1), (2) and (3) are consecutively blocked by the disc and finally, only photosensor (3) is a blocked condition.	Figure 21
	⑭	The loading motor stops upon the judgment that the disc has entered.	
	⑮	The elevator motor rotates. (Rotation is in the opposite direction of Step (1). The elevator motor can rotate forward and in reverse.)	
	⑯	The rotation is transmitted to gears (A), (B), (C) and (D).	
	⑰	The rotation of gear (E) causes the CR chassis to move in the (G) direction.	
	⑱	The movement of the CR chassis causes the clamper to move and clamp the disc.	
	⑲	The movement of the CR chassis causes the home-position switch arm to move, and the home-position switch is switched on.	
	⑳	The photo-interrupter counts the H-holes on gear (C), and the elevator motor is stopped upon judgment that the CR chassis has reached the home position.	

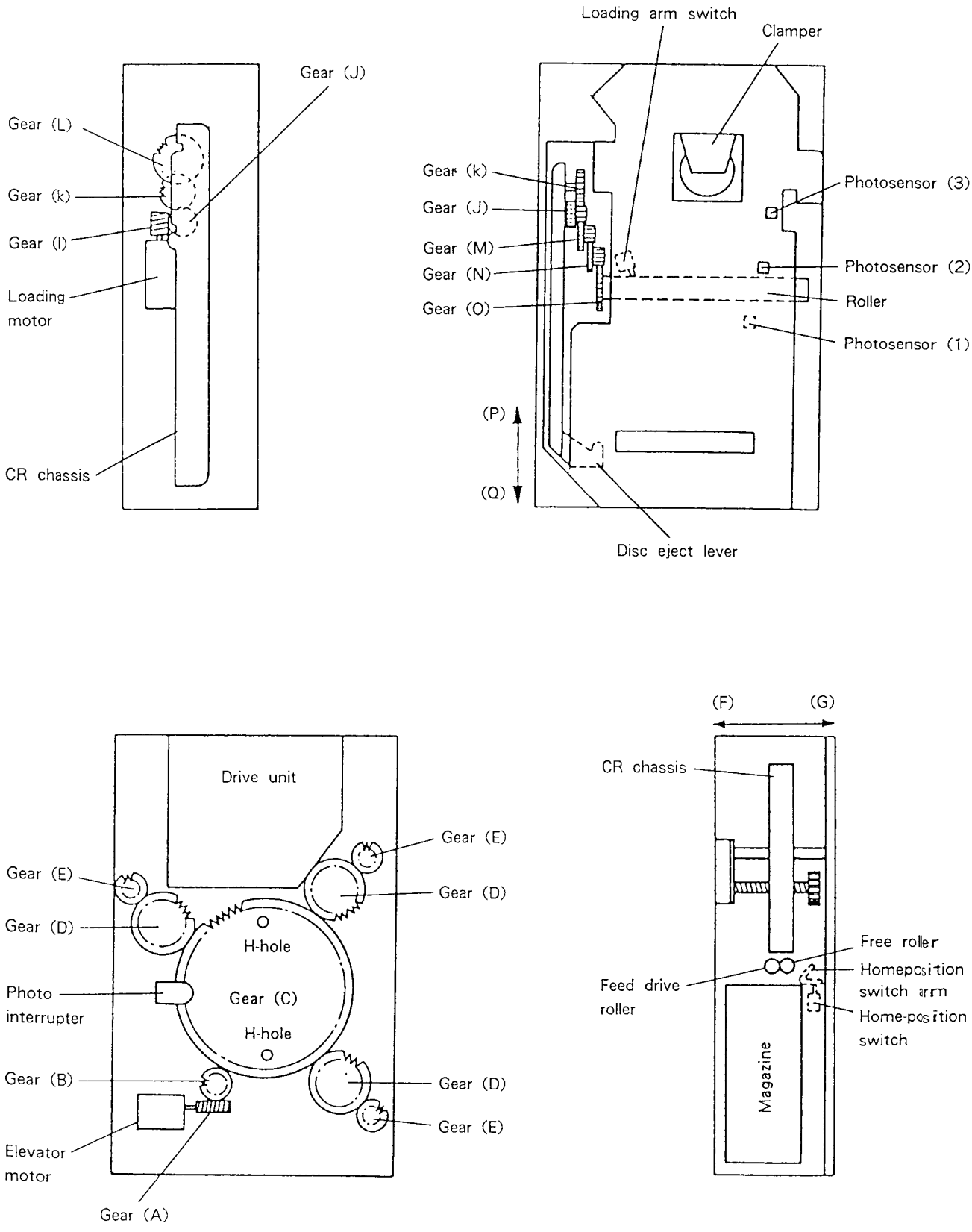

Gear (J)
Gear (L)
Gear (k)
Gear (I)
Loading motor
CR chassis
Loading arm switch
Clamper
Gear (k)
Gear (J)
Gear (M)
Gear (N)
Gear (O)
Photosensor (3)
Photosensor (2)
Roller
Photosensor (1)
(P)
(Q)
Disc eject lever
Drive unit
Gear (E)
Gear (D)
Gear (E)
Gear (D)
H-hole
Photo interrupter
Gear (C)
H-hole
Gear (B)
Gear (D)
Gear (E)
Elevator motor
Gear (A)
(F)
(G)
CR chassis
Free roller
Homeposition switch arm
Feed drive roller
Home-position switch
Magazine

Figure 21

Function	Step	Description	Illustration
Play	①	The spidle motor rotates the disc.	Figure 23
	②	The rotation of the sled motor is transmitted through the gears to the feed screw and causes the pickup to move.	
	③	The lead-in position of the disc is detected by the inner limit position switch and the reading of the disc data begins.	
Return of the disc to the magazine	①	The elevator motor rotates.	Figure 21
	②	The rotation is transmitted to gears (A), (B), (C), (D) and (E).	
	③	The CR chassis is moved in the (F) direction by the rotation of gear (E).	
	④	The clamper is removed.	
	⑤	The photo-interrupter counts the H-holes on gear (C) to control the movement distance of the CR chassis.	
	⑥	The disc is sandwiched between the feed drive roller and the free roller.	
	⑦	The CR chassis is stopped at the position of the first disc in the magazine. * For the 2nd through 6th disc the movement distance of the CR chassis is the only thing that changes : the operation is the same.	
	⑧	The loading motor rotates.	Figure 24
	⑨	The rotation is transmitted to gears (I), (J), (M), (N) and (O).	Figure 21
	⑩	The rotation of gear (O) causes the feed drive roller to rotate and to move in the direction of the disc magazine.	
	⑪	Blockage of photosensor (3) by the disc is cancelled.	
	⑫	The movement of the disc blocks photosensors (2) and (1) and cancels the blocking.	
	⑬	The blocking of photosensor (1) is cancelled and the disc is judged to have been housed in the magazine.	
	⑭	The loading motor stops.	

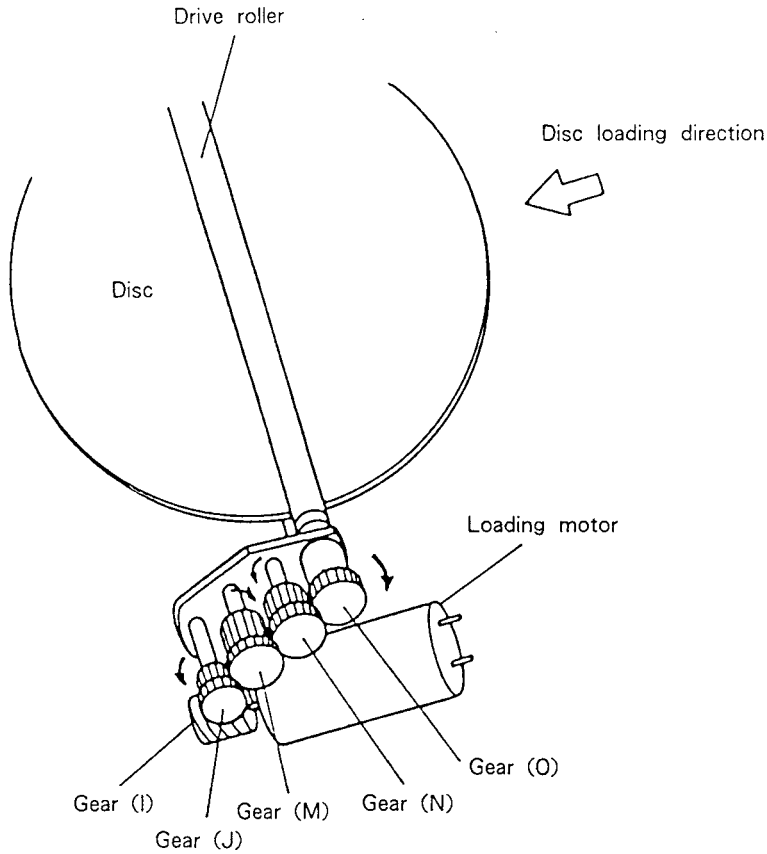


Figure 22

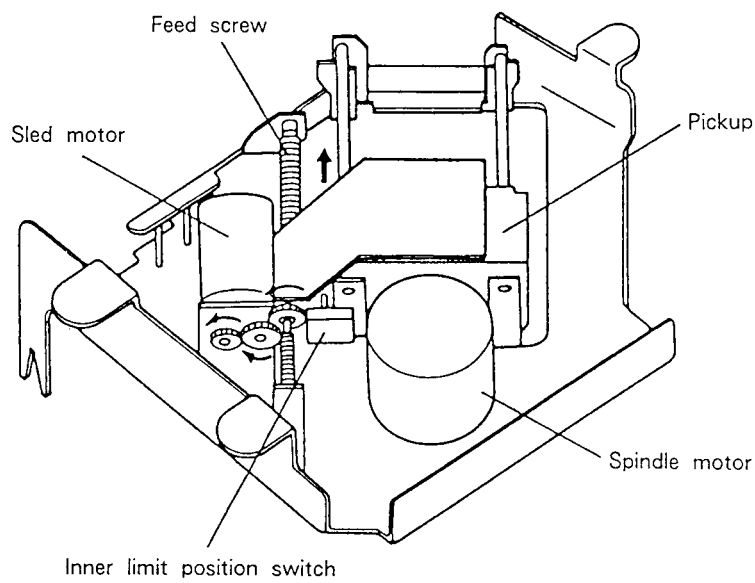


Figure 23

Function	Step	Description	Illustration
Magazine Ejection	①	Press the eject switch.	Figure 25
	②	The elevator motor rotates.	Figure 21
	③	The rotation is transmitted to gears (A), (B), (C), (D) and (E).	
	④	The CR chassis is moved in the (G) direction by the rotation of gear (E).	
	⑤	The movement of the CR chassis causes the home-position switch arm to move, and the home-position switch is switched on.	
	⑥	The photo-interrupter counts the H-holes on gear (C), and the elevator motor is stopped upon judgment that the CR chassis has reached the home position.	
	⑦	The loading motor rotates.	
	⑧	The rotation is transmitted to gears (J), (K), and (L).	
	⑨	The rotation of gear (L) causes the disc eject lever to make a back-and-forth movement in the (P) and (Q) directions.	
	⑩	The disc eject lever causes the eject arm to move.	Figure 25
	⑪	The eject arm causes the eject lever to move, the magazine lock arm is released and the magazine is ejected.	
	⑫	The magazine lock switch is switched off and there is a judgment that the magazine has been ejected.	Figure 21

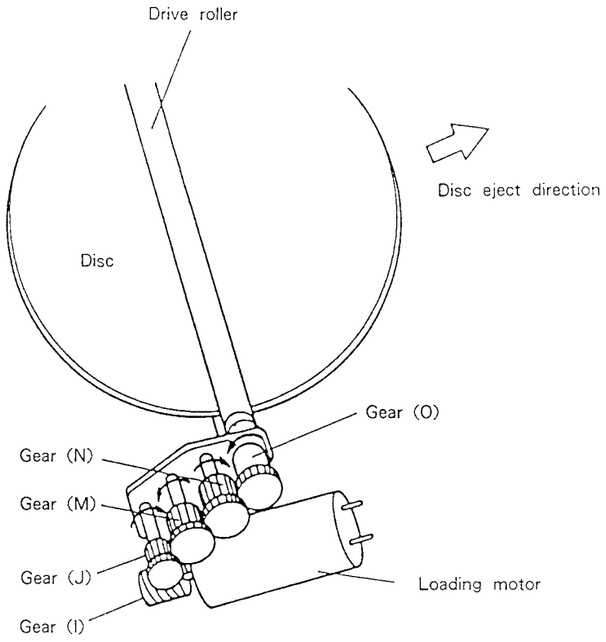


Figure 24

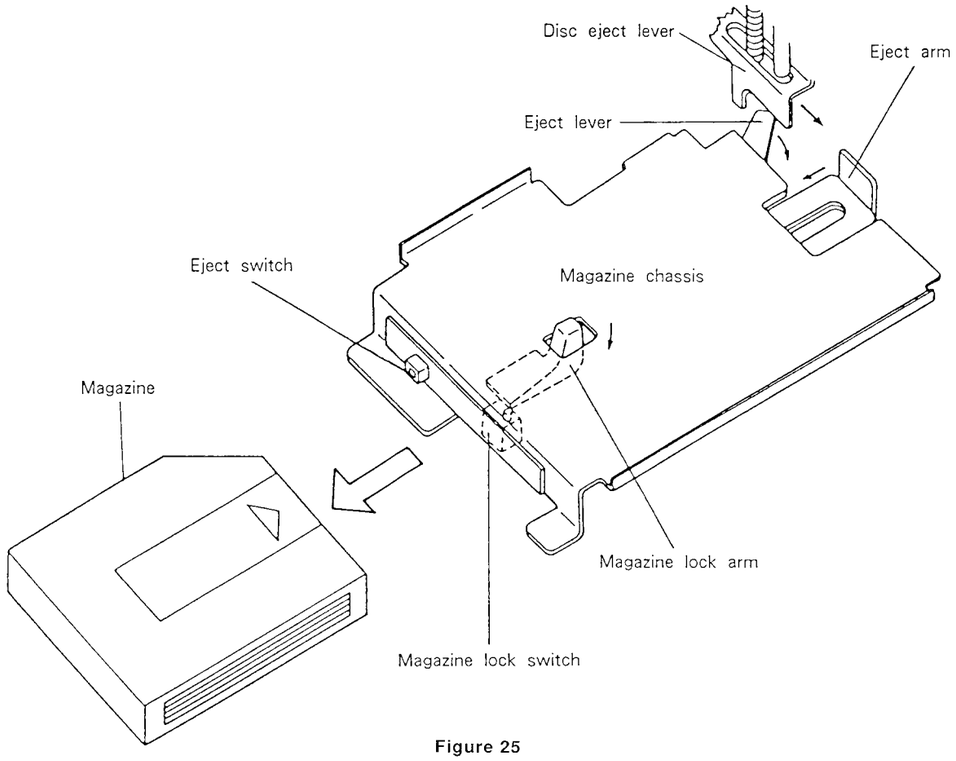
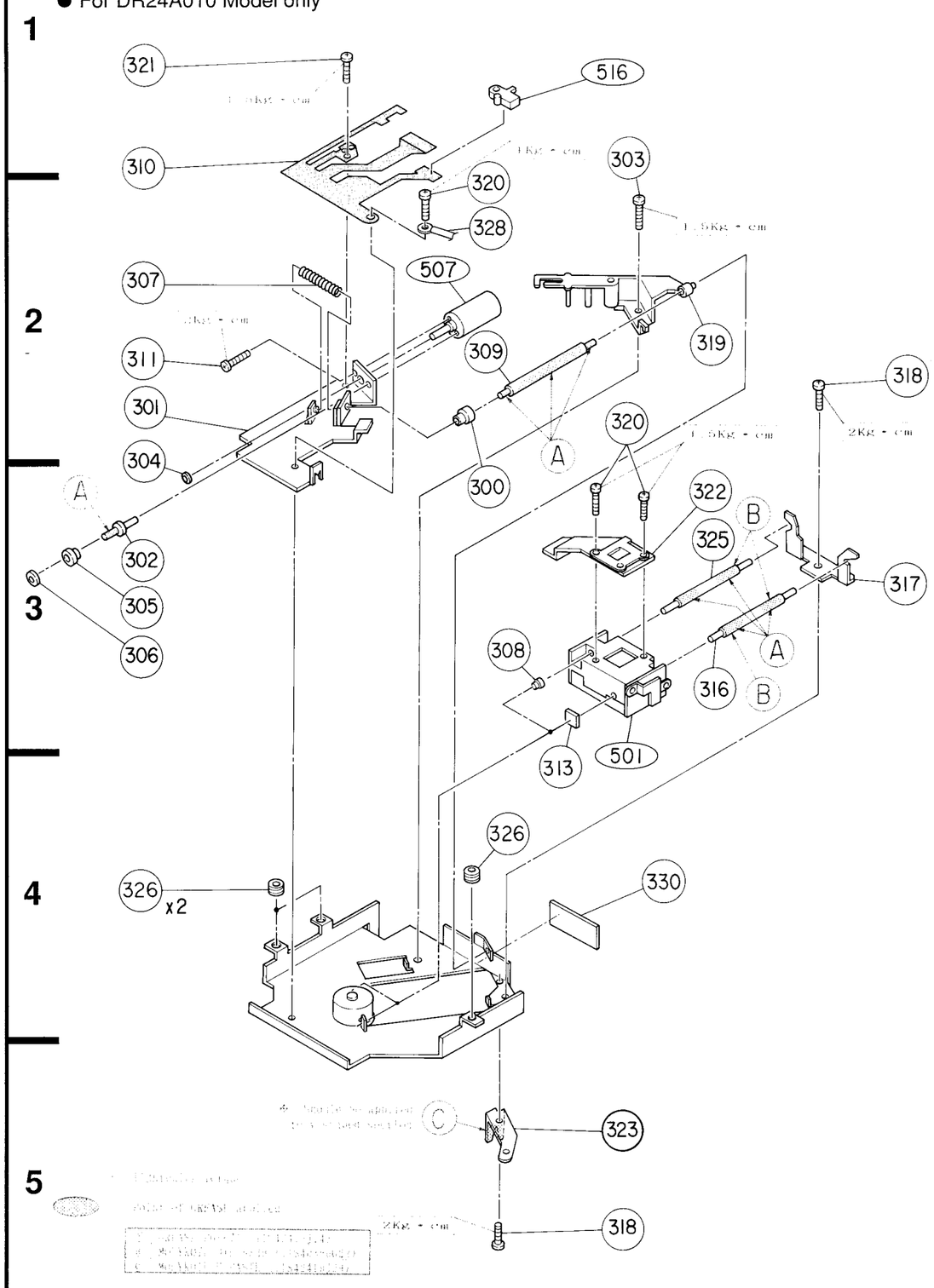


Figure 25

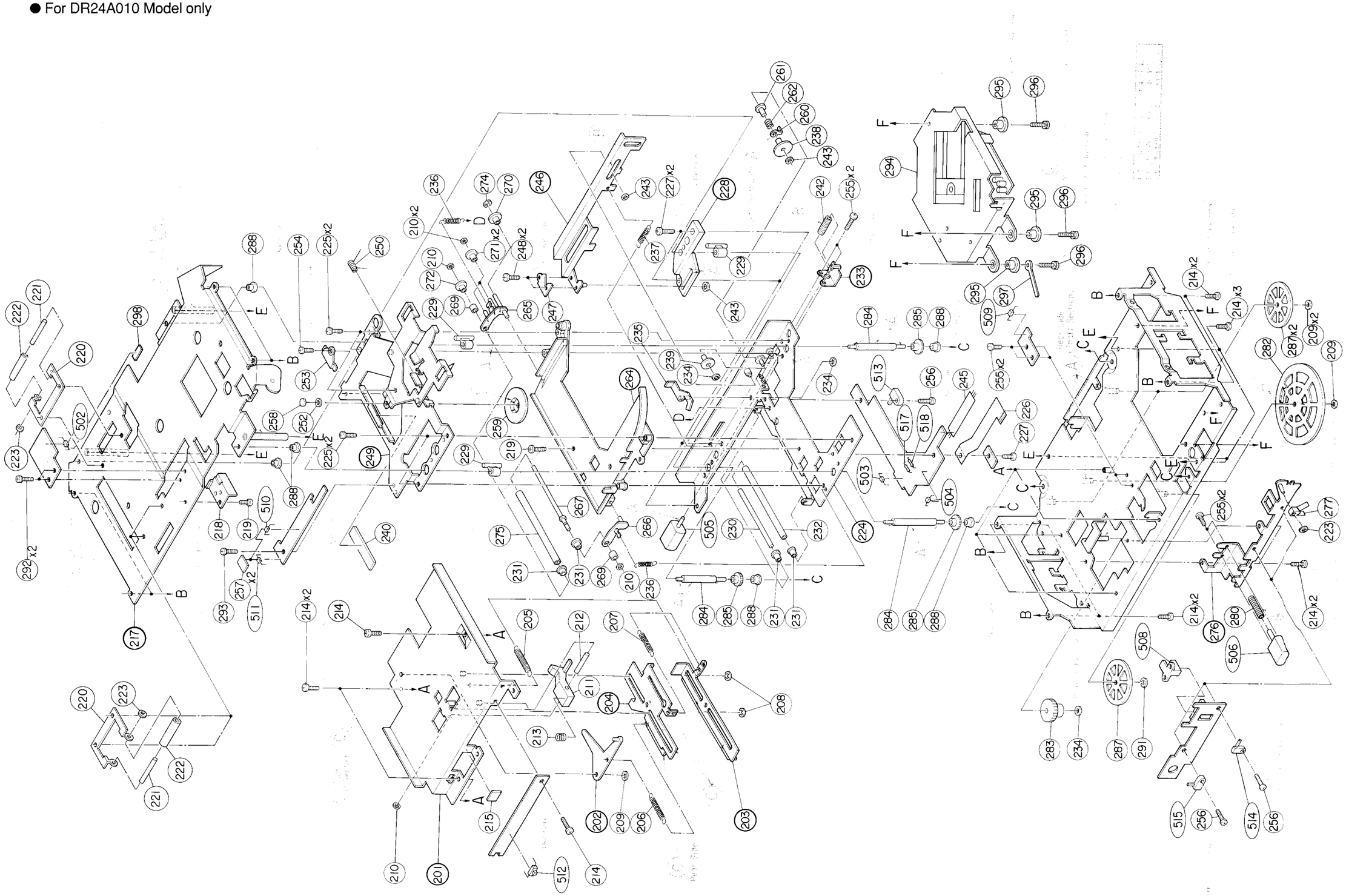
Exploded View (CD Mechanism) (1/2)

● For DR24A010 Model only



Exploded View (CD Mechanism) (2/2)

● For DR24A010 Model only



CD Mechanism Assembly Parts List

<For DR24A010 Model Only>

Symbol No.	Index	Part No.	Description		
205	4-D	41B11514W04	Spring, Extension		
206	5-D	41B11514W05	Spring, Extension		
207	4-D	41B11514W06	Spring, Extension		
208	4-E	04C42091G02	Ring, "E" (M3. 2)		
209		04B41345P04	Washer, Lock (M2. 6)		
210		04B41345P02	Washer, Lock (M1. 7)		
211	4-D	45A11483W01	Arm, Lock Magazine		
212	4-D	47A11405W01	Shaft, Arm Lock		
213	4-D	41A11480W02	Spring, Compression		
214		03S44205G30	Screw, Pan (M2. 6 X 4)		
215	5-C	14S20875W87	Insulator, Cover		
218	3-B	43A13109W01	Spacer, Magazine		
219		03S44205G87	Screw, Pan (M2 X 4)		
220		41A11425W01	Spring, M. Hold		
221		47A11428W01	Roller, M. Hold		
222		47A11429W01	Shaft, Roller		
223		04B41345P01	Washer, Lock (M1. 2)		
225		03S40014G15	Screw, W/Washer (M2 X 8)		
226	3-F	84T11243W01	FPC Elevator P. C. Board		
227		03S40014G61	Screw, W/Washer (M2 X 5)		
229		45A11284W01	Arm, Elevator		
230	3-E	47A11273W01	Shaft, Roller Under		
231		43A11272W01	Bush, Roller		
232	3-E	75A11925W01	Rubber, Roller		
234		04B41345P13	Washer, Lock (M1. 7)		
235	2-D	01A11565W01	Assy., Rivet Arm Switch DL		
236		41B11514W08	Spring, Extension		
237	2-D	41B11514W02	Spring, Extension		
238	2-E	44A11481W01	Gear, Lever Middle		
239	3-D	44B22139W01	Gear, Lever		
240	3-C	75A96179F01	Sheet, Support Disc		
242	2-E	44A11281W01	Worm		
243		04B41345P22	Washer, Lock (M2. 6)		
245	3-F	30T73687F17	Parallel, Wire (3P)		
247	2-D	45A11441W01	Arm, Block A Magazine		

Symbol No.	Index	Part No.	Description		
248	2-D	03S94385F01	Screw, Pan (M1. 7 X 2. 3)		
250	2-C	41A11559W01	Spring, Torsion		
252	3-B	04B41345P24	Washer, Lock (M2. 1)		
253	3-B	07A11468W01	Plate, Top		
254	2-B	03S44205G94	Screw, Pan (M1. 7 X 2)		
255		03S40014G62	Screw W/Washer (M2 X 3)		
256		03S10042W06	Screw, Pan (M2 X 7)		
257	4-B	75S72374F97	Cushion, Rubber		
258	3-B	43A41006F01	Spacer, Polyslider		
259	3-C	01A31486W01	Assy., Rivet Clamper		
260	1-E	45A31789W01	Arm, Kick Gear		
261	1-E	43A11485W01	Bush, Gear		
262	1-E	41A11480W01	Spring, Compression		
265	2-D	01A11566W01	Assy., Rivet Arm Roller		
266	3-D	01A11567W01	Assy., Rivet Arm Roller (R)		
267	3-D	47A11274W01	Shaft, Roller		
269		47A11302W01	Roller, Lifter		
270	2-C	44A11278W01	Worm		
271	2-C	44A11279W01	Gear, Roller Middle		
272	2-C	44A11280W01	Gear, Loading Roller		
274	2-C	04C42091G06	Ring, "E" (M1. 5)		
275	3-C	75A11925W01	Rubber, Roller		
277	3-H	45A11265W01	Arm, Switch HP		
280	4-G	44A11276W01	Worm		
282	2-H	44B11283W01	Gear, Timing		
283	4-F	44A11275W01	Worm Wheel		
284		47A12135W01	Shaft, Screw Elevator		
285		44A11277W01	Gear, Screw		
287		44B11282W01	Gear, Idle		
288		43A11271W01	Bearing, Screw Elevator		
291	4-G	04C42091G11	Ring, "E" (M2. 5)		
292	4-A	03S94385F09	Screw, Pan (M2 X 3)		
293	4-B	03S44205G99	Screw, Bind (M2 X 3)		
294	2-F	01V21800W05	Assy., Drive Unit		
295		43A12211W01	Sleeve, Cushion		

NOTE : The parts without part numbers are not supplied.

Symbol No.	Index	Part No.	Description		
296		03S38013W10	Screw, Pan (M2 X 7)		
297	2-F	29C41045P09	Lug, Wrap Around		
298	2-A	75A20928W01	Rubber, Top Chassis		
300	3-B	44A90998F01	Gear, Screw		
301	2-A	07C10922W02	Bracket, Motor		
302	3-A	46A91007F02	Stud, Gear		
303	1-C	03S40014G07	Screw, W/Washer (M2 X 4)		
304	2-A	44A90996F01	Gear, Motor		
305	3-A	44A90997F01	Gear, Middle		
306	3-A	04B41345P02	Washer, Lock (M1. 7)		
307	2-A	41A10928W03	Spring, Shaft-150		
308	3-B	43A13508W01	Spacer, Shaft		
309	2-B	47A10927W01	Shaft, Screw		
310	1-A	84T15149W01	FPC Actuate P. C. Board		
311	3-A	03S40014G66	Screw, W/Washer (M2 X 3. 5)		
313	4-C	75A21138W01	Sheet, Shaft		
316	3-C	47A20146W01	Shaft, Pick-Up-50°		
317	3-D	07A10921W01	Bracket, Shaft		
318		03S40014G62	Screw, W/Washer (M2 X 3)		
319	2-C	07B10923W01	Bracket, Screw		
320		03D40121T38	Screw, W/Double Washer (M2 X 5)		
321	1-A	03S40014G69	Screw, W/Washer (M2 X 8. 5)		
322	3-C	41C10925W02	Spring, Nut		
325	3-C	47A21175W01	Shaft, Pick-Up -50°(B)		
326		75A12210W01	Rubber, Cushion		
328	2-B	01T70458F02	Assy., GND Wire		
330	4-C	14S81482F10	Insulator, Cover		

Symbol No.	Index	Part No.	Description		
Miscellaneous					
501	3-C	88T15309W01	Pick-Up SF-87. 5		
502	3-A	48T16057W01	LED, AN501 (RED)		
503	3-E	48T16057W02	LED, AN501-B1 (RED)		
504	3-F	48T16057W02	LED, AN501-B1 (RED)		
505	3-E	59T90879F01	Motor, Load 6V-260mA (LOADING)		
506	4-G	59T15716W01	Motor, Load 8V-330mA (ELEVATOR)		
507	2-C	59T52973F03	Motor, Servo 6V-210mA (SLED)		
508	4-G	48T15722W01	Interrupter Photo, GP1S51		
509	2-F	48T15938W02	TR., Photo PS5022		
510	3-B	48T15938W02	TR., Photo PS5022		
511	4-B	48T15938W02	TR., Photo PS5022		
512	5-D	40T10876W12	Switch, Tact SKHLAJ (EJECT)		
513	3-E	40T71025F01	Switch, Detector (LOADING)		
514	5-H	40T71025F01	Switch, Detector (HOME POSITION)		
515	5-G	40T71025F01	Switch, Detector (MAGAZINE)		
516	1-C	40T71025F01	Switch, Detector (LIMIT)		

NOTE : The parts without part numbers are not supplied.

CD Mechanism Assembly Parts List

<For DR24A020 Model Only>

Symbol No.	Index	Part No.	Description		
205	4-D	41B11514W04	Spring, Extension		
206	5-D	41B11514W05	Spring, Extension		
207	4-D	41B11514W06	Spring, Extension		
208	4-E	04B41345P39	Washer, Lock (M3. 5)		
209		04B41345P04	Washer, Lock (M2. 6)		
210		04B41345P02	Washer, Lock (M1. 7)		
211	4-D	45A11483W01	Arm, Lock Magazine		
212	4-D	47A11405W01	Shaft, Arm Lock		
213	4-D	41A11480W02	Spring, Compression		
214		03S44205G30	Screw, Pan (M2. 6 × 4)		
215		04C42091G06	Ring, "E" (M1. 5)		
218		03S44205G99	Screw, Bind (M2 × 3)		
219	3-C	03S44205G87	Screw, Pan (M2 × 4)		
220		43A11271W01	Bearing, Screw Elevator		
221		44B11282W01	Gear, Idle		
222		44A11277W01	Gear, Screw		
223		04B41345P01	Washer, Lock (M1. 2)		
225		03S38013W07	Screw, Pan (M2 × 8. 5)		
226	3-F	84T11243W01	EPC Elevator P. C. Board		
227		03S44205G95	Screw, Bind (M2 × 4)		
229		45A11284W01	Arm, Elevator		
230	3-E	01A40510W01	Assy., Shaft Roller Under		
231		43A11272W01	Bush, Roller		
232	4-G	04C42091G11	Ring, "E" (M2. 5)		
233		47A12135W01	Shaft, Screw Elevator		
234		04B41345P13	Washer, Lock (M1. 7)		
235	3-D	01A11565W01	Assy., Rivet Arm Switch		
236		41B11514W08	Spring, Extension		
237	2-D	41B11514W02	Spring, Extension		
238	2-E	44A11481W01	Gear, Lever Middle		
239	2-E	44B22139W01	Gear, Lever		
240	4-F	41A31495W01	Spring, Elevator		
242	2-E	44A11281W01	Worm		
243	2-E	04B41345P22	Washer, Lock (M2. 6)		
245	3-F	30T73687F17	Wire, Parallel (3P)		

Symbol No.	Index	Part No.	Description		
247	2-D	45A11441W01	Arm, Block A Magazine		
248	2-D	03S94385F01	Screw, Pan (M1.7 × 2. 3)		
250	2-C	41A11559W01	Spring, Torsion		
252	3-B	04B41345P24	Washer, Lock (M2. 1)		
253	3-B	07A31787W01	Plate, Top		
254	2-B	03S44205G94	Screw, Pan (M1.7 × 2)		
255		03S40014G62	Screw, W/Washer (M2 × 3)		
256		03S10042W06	Screw, Pan (M2 × 7)		
257	2-G	29C41045P09	Lug, Wrap Around		
258	3-B	43A41006F01	Spacer, Polyslider		
259	3-C	01A31782W01	Assy., Rivet Clamper		
260	2-E	45A31789W01	Arm, Kick Gear		
261	2-E	43A11485W01	Bush, Gear		
262	2-E	41A11480W01	Spring, Compression		
265	2-D	01A31779W01	Assy., Rivet Arm Roller (L)		
266	3-D	01A31780W01	Assy., Rivet Arm Roller (R)		
267	3-D	01A40509W01	Assy., Shaft Roller		
268	4-F	44A11275W01	Worm, Wheel		
269		47A11302W01	Roller, Lifter		
270	2-C	44A11278W01	Worm		
271	2-C	44A11279W01	Gear, Roller Middle		
272	2-C	44A11280W01	Gear, Loading Roller		
273		03S38013W10	Screw, Pan (M2 × 7)		
274	2-G	44B11283W01	Gear, Timing		
275		43A12211W01	Sleeve, Cushion		
277	3-H	45A31790W01	Arm, Switch HP		
278	2-F	01V21800W05	Assy., Drive Unit		
280	4-G	44A11276W01	Worm		
282	3-C	43A41006F01	Spacer, Polyslider		
283		03S40014G12	Screw, W/Washer (M2.6 × 4)		
284		41A11425W01	Spring, M. Hold		
285		47A11428W01	Roller, M. Hold		
286		47A11429W01	Shaft, Roller		
287		03S44205G96	Screw, Bind (M2 × 5)		
300	3-B	44A90998F01	Gear, Screw		
301	2-A	07C10922W02	Bracket, Motor		
302	3-A	46A91007F02	Stud, Gear		
303	2-C	03S40014G07	Screw, W/Washer (M2 × 4)		
304	2-A	44A90996F01	Gear, Motor		
305	3-A	44A90997F01	Gear, Middle		

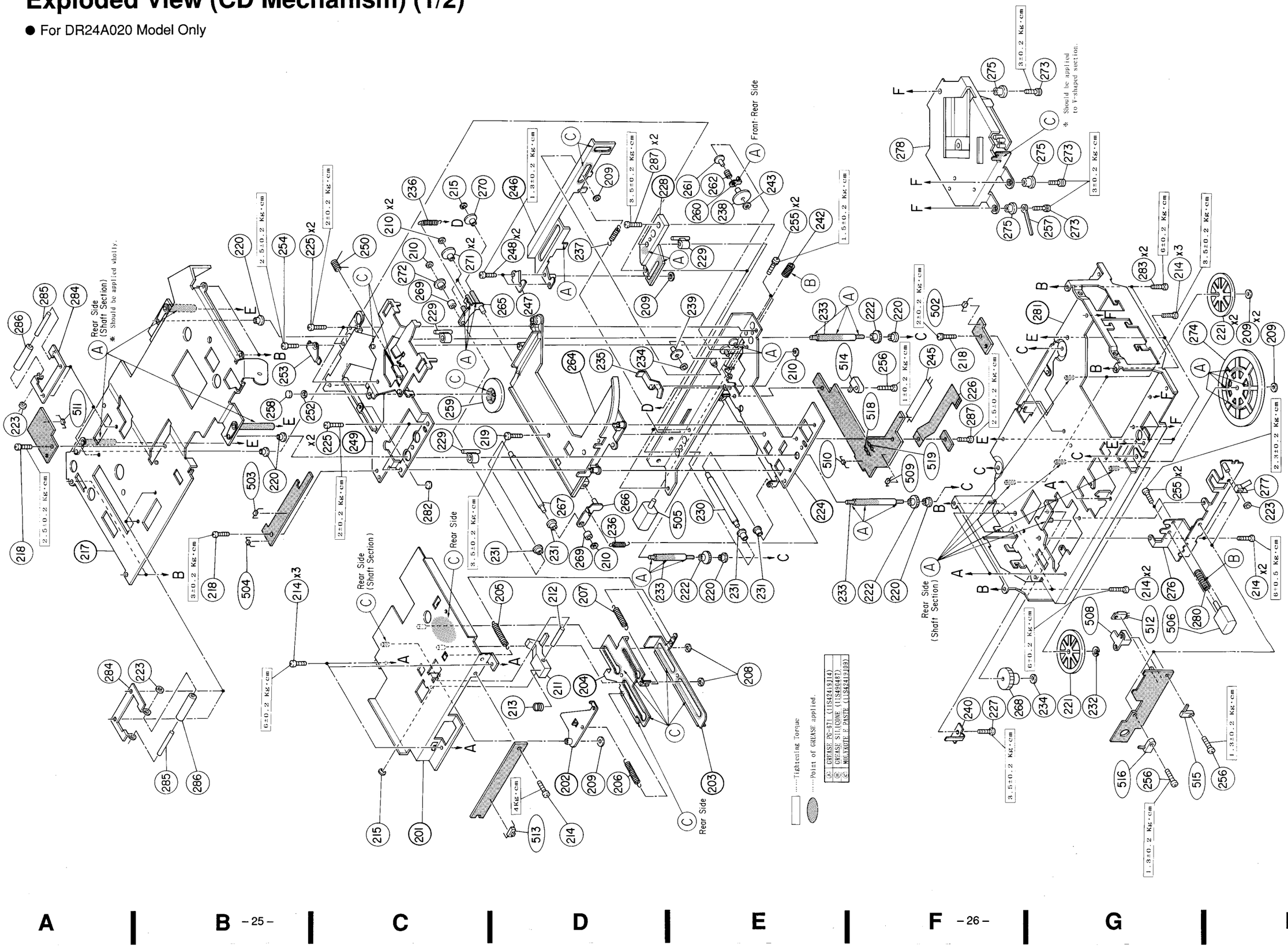
NOTE : The parts without part numbers are not supplied.

Symbol No.	Index	Part No.	Description		
306	3-A	04B41345P02	Washer, Lock (M1. 7)		
307	2-A	41A10928W03	Spring, Shaft-150		
308	3-B	43A13508W01	Spaceer, Shaft		
309	2-B	47A10927W01	Shaft, Screw		
310	2-A	84T15149W01	FPC Actuate P. C. Board		
311	2-A	03S40014G66	Screw, W/Washer (M2 X 3. 5)		
312	2-B	01T70458F02	Assy., GND Wire		
313	4-C	75A21138W01	Sheet, Shaft		
315		75A12210W01	Rubber, Cushion		
316	3-C	47A20146W01	Shaft, Pick-Up-50°		
317	3-D	07A10921W01	Bracket, Shaft		
318		03S40014G62	Screw, W/Washer (M2 X 3)		
319	2-C	07B10923W01	Bracket, Screw		
320		03D40121T38	Screw, W/Double Washer (M2 X 5)		
321	1-B	03S40014G69	Scerw, W/Washer (M2 X 8. 5)		
322	3-C	41C10925W02	Spring, Nut		
324	3-C	47A21175W01	Shaft, Pick-Up-50° (B)		
325	4-C	14S81482F10	Insulator, Cover		
Miscellaneous					
501	4-C	88T15309W01	Pick-Up Unit SF-87. 5		
502	2-F	48T16057W01	LED, AN501 (RED)		
503	3-B	48T16057W01	LED, AN501 (RED)		
504	4-B	48T16057W01	LED, AN501 (RED)		
505	3-D	59T90879F01	Motor, Load 6V-260mA (LOADING)		
506	4-G	59T15716W01	Motor, Load 8V-330mA (ELEVATOR)		
507	2-B	59T52973F03	Motor, Servo 6V-210mA (SLED)		
508	4-G	48T15722W01	Interrupter, Photo GP1S51		
509	3-F	48T15938W03	Transistor, Photo PS5022-B1		
510	3-E	48T15938W03	Transistor, Photo PS5022-B1		
511	3-A	48T15938W02	Transistor, Photo PS5022		
512	4-G	48T51089F04	Transistor, 2SA937		
513	5-D	40T10876W12	Switch, Tact SKHLAJ (EJECT)		
514	3-E	40T71025F01	Switch, Detector (LOADING)		
515	5-G	40T71025F01	Switch, Detector (HOME POSITION)		
516	5-G	40T71025F01	Switch, Detector (MAGAZINE)		
517	1-C	40T71025F01	Switch, Detector (LIMIT)		

NOTE : The parts without part numbers are not supplied.

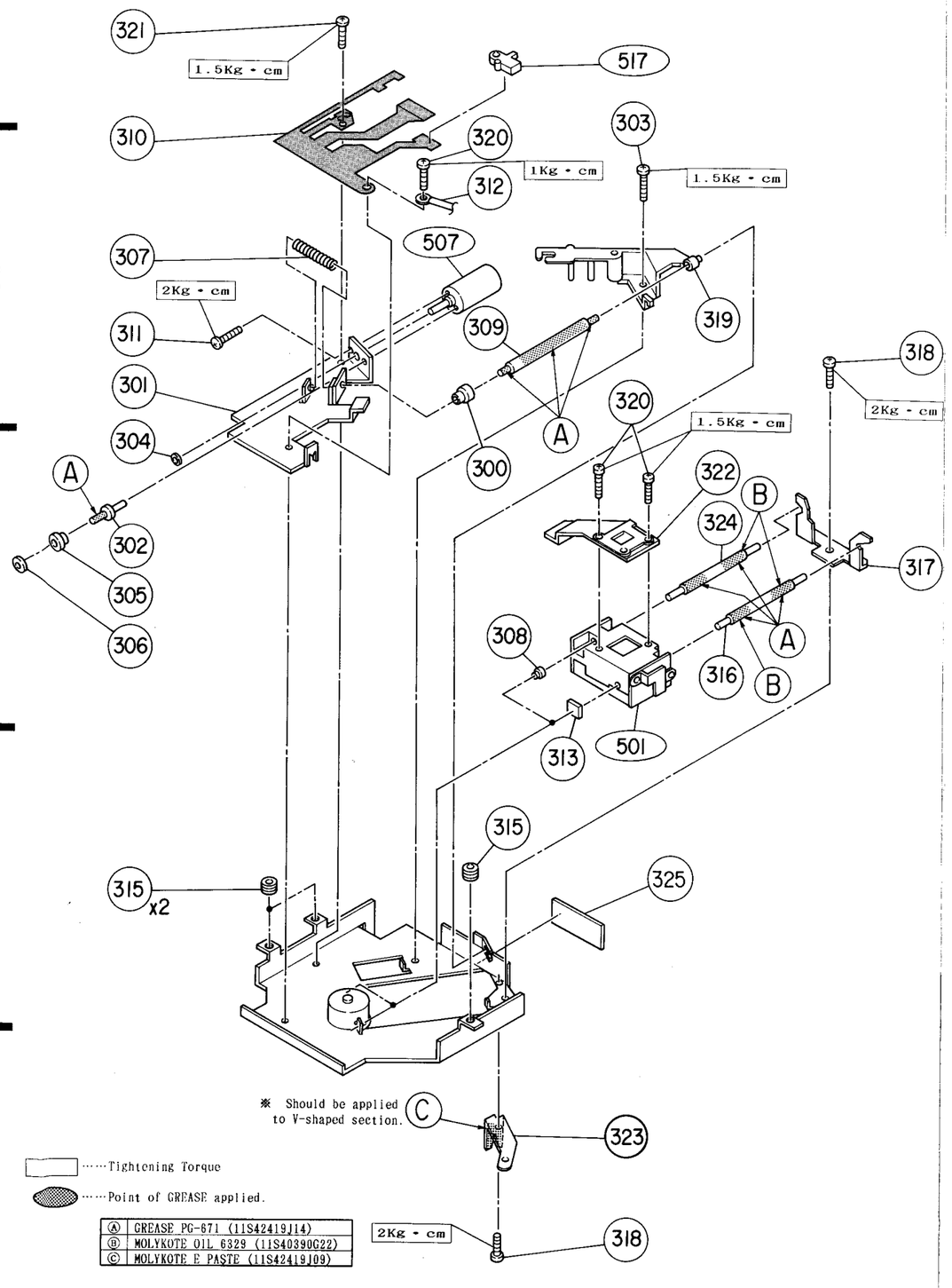
Exploded View (CD Mechanism) (1/2)

● For DR24A020 Model Only



Exploded View (CD Mechanism) (2/2)

● For DR24A020 Model only



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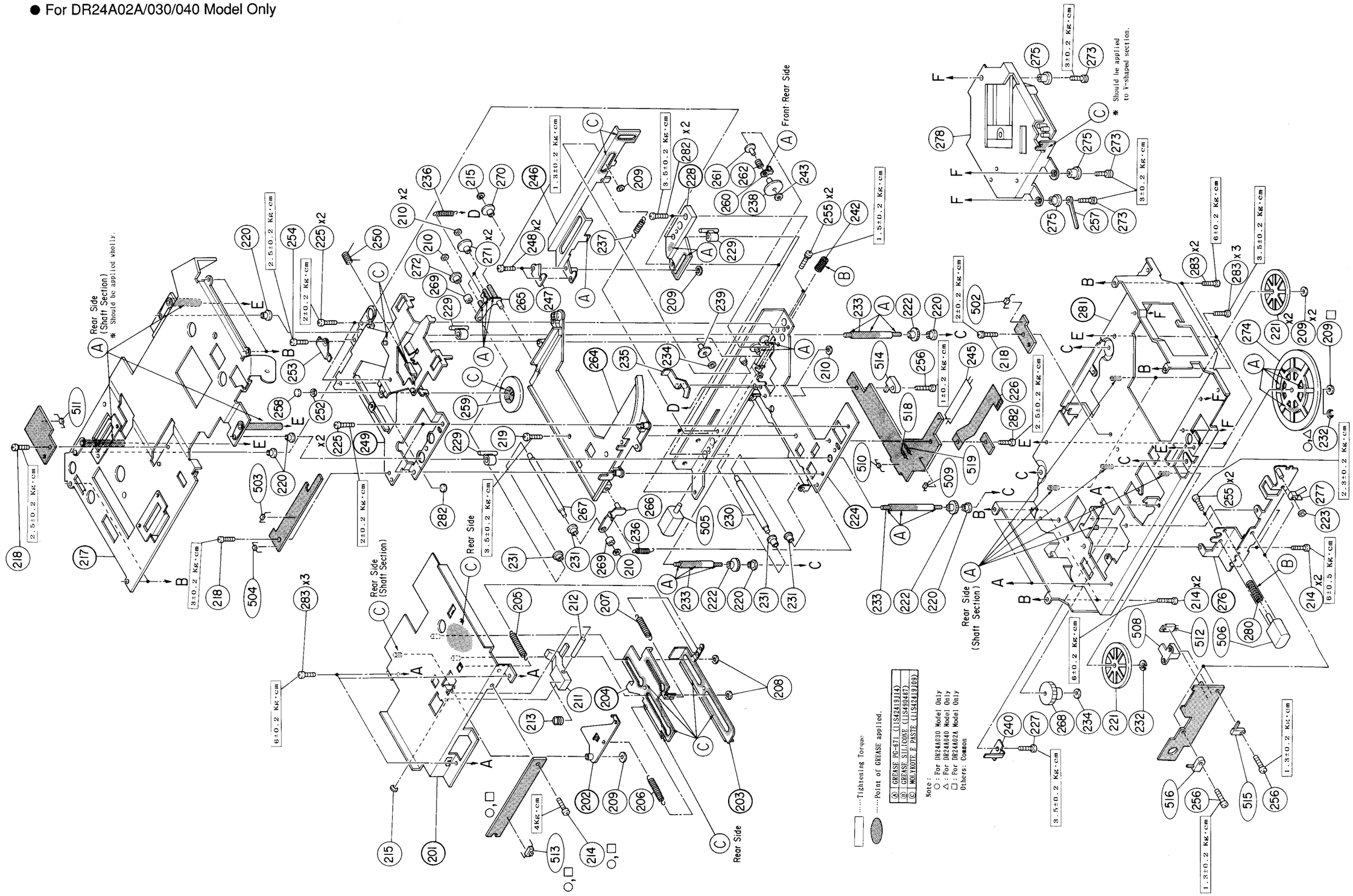
Exploded View (CD Mechanism) (1/2)

● For DR24A02A/030/040 Model Only



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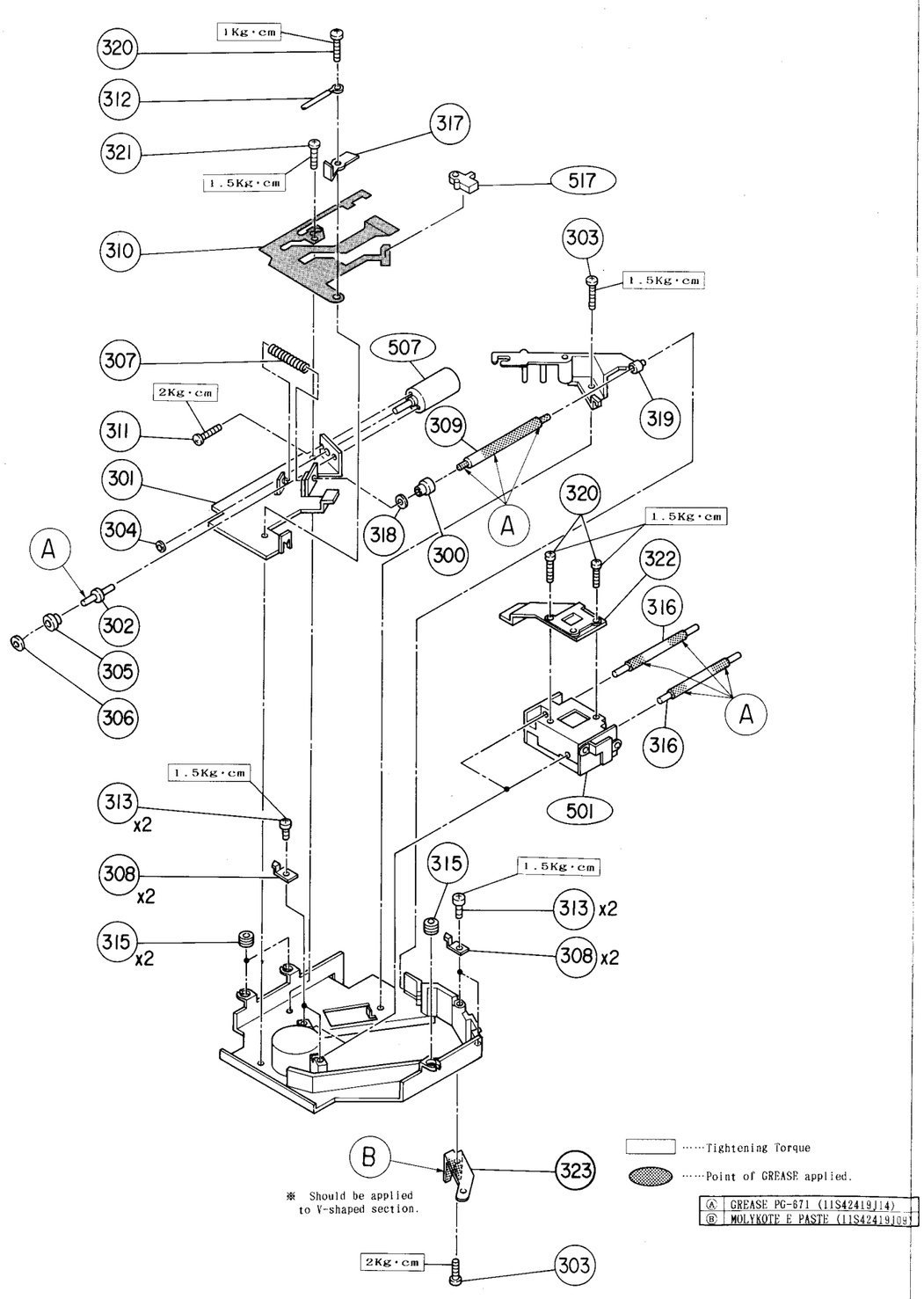
Exploded View (CD Mechanism) (2/2)

● For DR24A02A/030/040 Model only



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CD Mechanism Assembly Parts List

<For DR24A02A/030/040 Model Only>

Symbol No.	Index	Part No.	Description
205	4-D	41B11514W04	Spring, Extension
206	5-D	41B11514W05	Spring, Extension
207	4-D	41B11514W06	Spring, Extension
208	4-E	04B41345P39	Washer, Lock (M3. 5)
209		04B41345P04	Washer, Lock (M2. 6)
210		04B41345P02	Washer, Lock (M1. 7)
211	4-D	45A11483W01	Arm, Lock Magazine
212	4-D	47A11405W01	Shaft, Arm Lock
213	4-D	41A11480W02	Spring, Compression
214		03S44205G30	Screw, Pan (M2. 6 X 4)
215		04C42091G06	Ring, "E" (M1. 5)
218		03S44205G99	Screw, Bind (M2 X 3)
219	3-C	03S44205G87	Screw, Pan (M2 X 4)
220		43A11271W01	Bearing, Screw Elevator
221		44B11282W01	Gear, Idle
222		44A11277W01	Gear, Screw
223	3-H	04B41345P01	Washer, Lock (M1. 2)
225		03S38013W07	Screw, Pan (M2 5 8. 5)
226	3-F	84T11243W01	EPC Elevator P. C. Board
227	4-F	03S44205G95	Screw, Bind (M2 X 4)
229		45A11284W01	Arm, Elevator
230	3-E	01A40510W01	Assy., Shaft Roller Under
231		43A11272W01	Bush, Roller
232		04C42091G11	Ring, "E" (M2. 5)
233		47A12135W01	Shaft, Screw Elevator
234		04B41345P13	Washer, Lock (M1. 7)
235	3-D	01A11565W01	Assy., Rivet Arm Switch
236		41B11514W08	Spring, Extension
237	2-D	41B11514W02	Spring, Extension
238	2-E	44A11481W01	Gear, Lever Middle
239	2-E	44B22139W01	Gear, Lever
240	4-F	41A31495W01	Spring, Elevator
242	2-E	44A11281W01	Worm
243	2-E	04B41345P22	Washer, Lock (M2. 6)
245	3-F	30T73687F17	Wire, Parallel (3P)
247	2-D	45A11441W01	Arm, Block A Magazine
248	2-D	03S94385F01	Screw, Pan (M1.7 X 2. 3)
250	2-C	41A11559W01	Spring, Torsion
252	3-B	04B41345P24	Washer, Lock (M2. 1)
253	3-B	07A31787W01	Plate, Top
254	2-B	03S44205G94	Screw, Pan (M1.7 X 2)
255		03S40014G62	Screw, W/Washer (M2 X 3)
256		03S10042W06	Screw, Pan (M2 X 7)
257	2-G	29C41045P09	Lug, Wrap Around
258	3-B	43A41006F01	Spacer, Polyslider
259	3-C	01A31782W01	Assy., Rivet Clamper
260	2-E	45A31789W01	Arm, Kick Gear
261	2-E	43A11485W01	Bush, Gear
262	2-E	41A11480W01	Spring, Compression
265	2-D	01A31779W01	Assy., Rivet Arm Roller (L)
266	3-D	01A31780W01	Assy., Rivet Arm Roller (R)
267	3-D	01A40509W01	Assy., Shaft Roller
268	4-F	44A11275W01	Worm, Wheel
269		47A11302W01	Roller, Lifter
270	2-C	44A11278W01	Worm
271	2-C	44A11279W01	Gear, Roller Middle
272	2-C	44A11280W01	Gear, Loading Roller
273		03S38013W10	Screw, Pan (M2 X 7)
274	2-G	44B11283W01	Gear, Timing
275		43A12211W01	Sleeve, Cushion
277	3-H	45A31790W01	Arm, Switch HP
□ 278	2-F	01V43800W61	Assy., Drive Unit
○ 278	2-F	01V43500W73	Assy., Drive Unit
△ 278	2-F	01V43500W73	Assy., Drive Unit
280	4-G	44A11276W01	Worm
282		03S44205G96	Screw, Bind (M2 X 5)
283		03S40014G12	Screw, W/Washer (M2. 6 X 4)
300	3-B	44A90998F01	Gear, Screw
301	2-A	07C10922W02	Bracket, Motor
302	3-A	46A91007F02	Stud, Gear

NOTE : The parts without part numbers are not supplied.

□ : For DR24A02A Model Only, ○: For DR24A030 Model Only, △: For DR24A040 Model Only, Others : Common.

Symbol No.	Index	Part No.	Description
303	2-C	03S40014G07	Screw, W/Washer (M2 × 4)
304	2-A	44A90996F01	Gear, Motor
305	3-A	44A90997F01	Gear, Middle
306	3-A	04B41345P02	Washer, Lock (M1. 7)
307	2-A	41A10928W03	Spring, Shaft-150
308		07A30961W01	Stopper, Shaft (B)
309	2-B	47A10927W02	Shaft, Screw
□ 310	1-A	84T15149W01	FPC Actuate P. C. Board
○ 310	1-A	84T45270W01	FPC Actuate P. C. Board
△ 310	1-A	84T45270W01	FPC Actuate P. C. Board
311	2-A	03S40014G66	Screw, W/Washer (M2 × 3. 5)
312	2-B	01T70458F02	Assy., GND Wire
313		03S70494F17	Screw, Pan (M1. 7 × 8)
315		75A12210W01	Rubber, Cushion
316	3-C	47A30925W01	Shaft, Pick-Up
317	1-B	07A40743W01	Bracket
□ 318	3-B	04S40075G61	Washer, Polyslider (M2. 1)
○ 318	3-B	04S40075G06	Washer, Polyslider (M2. 1)
△ 318	3-B	04S40075G06	Washer, Polyslider (M2. 1)
319	2-C	07B10923W01	Bracket, Screw (M2. 1)
320		03D40121T38	Screw, W/Double Washer (M2 × 5)
321	1-B	03S40014G69	Scerw, W/Washer (M2 × 8. 5)
322	3-C	41C10925W02	Spring, Nut

Miscellaneous

501	4-C	88T15309W01	Pick-Up Unit SF-87. 5
502	2-F	48T16057W01	LED, AN501 (RED)
503	3-B	48T16057W01	LED, AN501 (RED)
504	4-B	48T16057W01	LED, AN501 (RED)
505	3-D	59T90879F01	Motor, Load 6V-260mA (LOADING)
506	4-G	59T15716W01	Motor, Load 8V-330mA (ELEVATOR)
507	2-B	59T52973F03	Motor, Servo 6V-210mA (SLED)
508	4-G	48T15722W01	Interrupter, Photo GP1S51
509	3-F	48T15938W03	Transistor, Photo PS5022-B1
510	3-E	48T15938W03	Transistor, Photo PS5022-B1

Symbol No.	Index	Part No.	Description
511	3-A	48T15938W02	Transistor, Photo PS5022
512	4-G	48T51089F04	Transistor, 2SA937
□ 513	5-D	40T10876W12	Switch, Tact SKHLAJ (EJECT)
○ 513	5-D	40T10876W12	Switch, Tact SKHLAJ (EJECT)
514	3-E	40T71025F01	Switch, Detector (LOADING)
515	5-G	40T71025F01	Switch, Detector (HOME POSITION)
516	5-G	40T71025F01	Switch, Detector (MAGAZINE)
517	1-C	40T71025F01	Switch, Detector (LIMIT)

NOTE : The parts without part numbers are not supplied.

□ : For DR24A02A Model Only, ○ : For DR24A030 Model Only, △ : For DR24A040 Model Only, Others : Common.